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Evaluation of the Effectiveness of the Childhood Development Initiative's *Mate-Tricks* Pro-Social Behaviour After-School Programme

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Evaluation of the Effectiveness of the Childhood Development Initiative's *Mate-Tricks* Pro-Social Behaviour After-School Programme

Liam O'Hare, Karen Kerr, Andy Biggart and Paul Connolly

Centre for Effective Education, School of Education, Queen's University Belfast

Queen's University Belfast

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Additional contributors

In particular, the research team would like to thank **Dr. Nigel McConnell**, as lead Research Fellow for the first 16 months of the project for his role in assisting with the design and trouble-shooting the many challenges in early implementation of the research, and **Pamela Jardine**, Administrator for the project and who also made a very significant contribution. We would also like to thank **Professor Carol McGuinness** from the School of Psychology, Queen's University Belfast, for her advisory role, particularly in the development and choice of appropriate outcome measures and for commenting on various drafts. The following members of the Research Team also made significant contributions to the research upon which this report is based: **Oscar Odena, Jacqueline Mullan** and **Tsvyata Donova**.

How to cite this report

Any citation of this report should use the following reference:

O'Hare, L., Kerr, K., Biggart, A. and Connolly, P. (2012) *Evaluation of the Effectiveness of the Childhood Development Initiative's Mate-Tricks Pro-Social Behaviour After-School Programme*. Dublin: Childhood Development Initiative (CDI).

Tallaght West Childhood Development Initiative Ltd.
St. Mark's Family and Youth Centre
Cookstown Lane
Fettercairn
Tallaght
Dublin 24
Tel: +353 (0)1 494 0030
Fax: +353 (0)1 462 7329
E-mail: info@twcdi.ie
Web: www. twcdi.ie

Published by Childhood Development Initiative, Dublin

ISBN: 978-0-9570232-2-2

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Minister's Foreword

For several years now, the Government, most recently through my own Department, has demonstrated a serious and significant commitment to the area of prevention and early intervention. Since 2007, we have, in partnership with The Atlantic Philanthropies, made a significant investment in the Prevention and Early Intervention Programme (PEIP), which constitutes the Childhood Development Initiative, Young Ballymun and Preparing for Life, Darndale.

We live in straitened times, but we know that a deeper understanding of what works for children and families is critical, not only for the health and well-being of the nation, but also for its economic recovery. That is why I am determined that the new Child and Family Support Agency will have a strong focus on prevention and early intervention.

Working in the children's sector can be immensely rewarding, but it can also be extremely challenging; there are wonderful moments and frequent frustrations. We stick with it because we can make a difference, because we know the value of our children and because we have hope for our future. When we embark on this path, rigorously evaluating the outcomes of our interventions, there will be successes, but there will also be interventions which do not achieve their goals. How difficult then it must be to find that the outcomes we set out to achieve have not, in fact, been realised; what terrible disappointment to discover our efforts have not been demonstrated as impacting on outcomes for children and families.

The findings of this report are, however, fundamental to our objective of better understanding how we can improve the lives of children. This rigorous evaluation, using the highest levels of scrutiny, illustrates that children enjoying a service does not necessarily mean that it is making a difference to their behaviour; it also highlights the important of independent evaluation as a means of assessing impact. This report reminds us that instinct is not a sufficient informant of 'what works' and indeed, the unexpected conclusions drawn here give credence to the whole approach of the Prevention and Early Intervention Programme, and the investment in developing evidence-based approaches.

I commend the honesty of this report and all those involved in the delivery and evaluation of the *Mate-Tricks* Programme, and its management subsequent to these evaluation findings. The openness with which these lessons are being shared is testament to the integrity of the Childhood Development Initiative and it is vital that the lessons are given due consideration by the range of stakeholders in order that they impact on future policy and practice.

I very much welcome this evaluation report and the knowledge it offers us about making positive change in the lives of children and families.

Frances Fitzgerald, TD,
Minister for Children and Youth Affairs

CDI Response to the Evaluation of the *Mate-Tricks* Programme

On behalf of the Board of the Childhood Development Initiative (CDI), I am delighted to receive, endorse and welcome this report.

CDI is one of three projects that constitute the Prevention and Early Intervention Programme (PEIP), a joint initiative of the Department of Children and Youth Affairs (DCYA) and The Atlantic Philanthropies. The three projects (CDI, Young Ballymun and Preparing for Life) were set up with the objective of 'testing innovative ways of delivering services and early interventions for children and young people, including the wider family and community settings' (DCYA, 2011).

Based in Tallaght West, CDI is the result of the professionalism, passion and persistence of a group of 23 concerned individuals and organisations living and working in the community who had a vision of a better place for children. Through innovative partnerships, they brought together an approach which drew on both the science and the spirit of best practice in order to meet the identified needs of children and families. A partnership was agreed between the Government and The Atlantic Philanthropies, and the consortium's first piece of work was a needs analysis entitled *How Are Our Kids?* (CDI, 2004). A number of priorities were agreed based on this research, one of which was to establish and incorporate CDI. This was completed in 2007 and following this a range of programmes have been designed, delivered and independently evaluated.

CDI's programmes programmes are the Early Years Programme; *Doodle Den* literacy programme for Senior Infant Children; the Healthy Schools Programme; Early Intervention Speech and Language Therapy; Community Safety Initiative; Safe and Healthy Place Initiative; Restorative Practice; the Quality Enhancement Programme; and, of course, the *Mate-Tricks* Pro-social Behaviour Programme, which is the focus of this evaluation report.

All CDI programmes are evidence-informed and incorporate elements for children, families and the practitioners working with them, and are delivered through existing services and structures. CDI has a core role in promoting quality, capacity and value for money. All elements of our work are rigorously and independently evaluated and we are committed to sharing the learning and experiences from Tallaght West in order to inform and shape future policy, practice, training and curriculum development. This report is one strand in a comprehensive dissemination process aimed at doing just that.

The *Mate-Tricks* Programme did not achieve the changes in behaviour which it was designed to support. We now know, through the extensive background research undertaken by Queens University Belfast, that this is not a unique experience and that, in fact, positively impacting on the behaviours of children and young people, particularly through after-school activities, is extremely challenging. Interestingly, the evaluation of the *Doodle Den* Programme (CDI, 2012), which set out to improve literacy levels amongst 5 and 6 year-olds, whilst achieving this target also reduced experiences of bullying and improved attention among some children. We need to better understand this dynamic and the implication that focusing on educational attainment and boosting confidence levels may, in fact, be effective mechanisms for behavioural change.

So what does any of this mean for policy, practice, training and curriculum development? We believe it tells us a great deal about the need for rigour in our work; the importance of avoiding assumptions; the need to trust both the 'science and the spirit' which informs our practice; and the value of investment in independent research which offers us deep, credible insights into what works for children and families.

Through discussions with colleagues and those involved in similar work, we know there is considerable interest in how we managed the disappointing findings from this evaluation. We are cognisant and respectful of the professionalism and investment of those who delivered and supported the programme, but also concerned to share the learning, and offer our experience as a vehicle for enhancing our understanding of the many factors impacting on this process. As always, there is a balance to be struck between integrity and transparency alongside discretion and sensitivity. The process undertaken to share the findings at a local level, through a partnership between Queens University, the local service provider and CDI, will be documented in a chapter of the Research, Evaluation, Policy and Practice (REPP) Project, which is capturing the challenges and learning relating to undertaking rigorous evaluation in real-world settings. We will also use this evaluation to inform our thinking and messages in relation to the utilisation of data, the role of research and evaluation in planning processes and the mechanisms that enable honest and meaningful reflection on findings, whatever shape or nature these may take.

CDI remains committed to supporting a better understanding of how to improve outcomes for children, families and communities, and this evaluation of the *Mate-Tricks* Programme confirms for us the value of the approach taken and the investment made by Government and The Atlantic Philanthropies in this approach.

Joe Horan
Chair
CDI Board

Acknowledgements

The Research Team would like to thank the following people who graciously gave their expertise, time and, most importantly, good humour to ensure that this research was comprehensive, high quality and enjoyable for all participants:

- The children who took part in the programme.
- The children who completed the questionnaires and focus groups, who gave us their views and provided valuable insight into their experiences of *Mate-Tricks*.
- The schools and teachers who facilitated the administration of the evaluation in their schools, completed questionnaires and provided school records.
- The Principals who gave generously of their time to be involved in interviews.
- The parents who took part in the focus groups and those who completed the parent questionnaires.
- The service providers and facilitators who gave generously of their time and expertise to organise data collection, take part in interviews, collate records and allow their sessions to be observed.
- All the staff from the Childhood Development Initiative (CDI) for their involvement in organising data collection, taking part in interviews, collating records and notes, and for their encouragement and support throughout the project.
- All those who took part in the reflection groups and the Expert Advisory Committee for their comments in relation to a preliminary draft of this report.

The research team would also like to acknowledge The Atlantic Philanthropies and the Department of Children and Youth Affairs whose generous support made this evaluation possible.

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Executive Summary

Introduction

This report presents the findings of an independent evaluation, undertaken by the Centre for Effective Education at Queen's University Belfast, of the *Mate-Tricks* pro-social behaviour after-school programme. The evaluation primarily focused on assessing the impact of *Mate-Tricks* on children's outcomes. Additionally, data was collected on how the programme was implemented as well as the experiences and perspectives of key stakeholders. The evaluation team is indebted to the children, parents, teachers, service providers, facilitators and schools that participated in the study. Furthermore, the encouragement and support of the Childhood Development Initiative (CDI) was invaluable during the research process. The team would also like to acknowledge The Atlantic Philanthropies and the Department of Children and Youth Affairs whose generous support made the evaluation possible.

Mate-Tricks

Mate-Tricks is an after-school programme designed to promote pro-social behaviour in Tallaght West (Dublin). Tallaght West has been designated as an area of particular social and economic disadvantage with high levels of unemployment. It is comprised of four communities: Brookfield, Fettercairn, Jobstown and Killinarden. The area has over 23,312 residents (Census 2006). *Mate-Tricks* is a bespoke intervention that combines elements of two pro-social behaviour programmes: the Strengthening Families Program (SFP) and Coping Power Program (CPP). The programme is a one-year multi-session after-school programme comprising 59 children-only sessions, 6 parent-only sessions and 3 family sessions, with each session lasting 1½ hours. This evaluation reports on the pilot of this programme. Three cohorts of children participated in the pilot between 2008 and 2011. The manual was still being adapted and refined in the first two years of the programme.

Mate-Tricks is aimed at improving pro-social behaviour amongst children aged 9-10 years (Irish 4th class). The intended outcomes of this programme are stated as follows in the *Mate-Tricks* manual:

- enhance children's pro-social development;
- reduce children's anti-social behaviour;
- develop children's confidence and self-esteem;
- improve children's problem-solving skills;
- improve child-peer interactions;
- develop reasoning and empathy skills;
- improve parenting skills;
- improve parent/child interactions.

Methodology

A rigorous evaluation of the programme was completed by the Centre for Effective Education at Queen's University Belfast, which included a randomised controlled trial (RCT) to measure the effects of the programme on child outcomes and a process evaluation that investigated its implementation.

The current study utilised a 3-year rolling cohort design. The effectiveness of the intervention was not assessed until all cohorts had completed the intervention and the results reported are pooled from all three successive cohorts. The reason for this is that three cohorts of children were necessary in order to achieve a large enough sample to rigorously assess the programme's effects. In *Mate-Tricks*, children completed pre-tests at the beginning of the programme in September and post-tests at the end of the programme in June. A rolling cohort design also ensures that the impact of *Mate-Tricks* is looked at in a longitudinal way (i.e. over the three cohorts), as well as providing a sufficient sample size for statistical comparisons and effect size calculations.

In total, 592 children were randomly assigned to intervention and control groups over the three cohorts. 347 children and 122 parents completed both pre- and post-test questionnaires. Attrition rates appeared to have no impact since participants in the final analysis were well matched in the control and intervention groups. Additionally, teachers completed 279 pre- and post-intervention assessments of the children. There were no significant differences on pre-test mean scores between the intervention and control groups on any of the variables, with the two groups being equivalent and suitable for outcome evaluation.

The two primary outcomes investigated were pro-social behaviour and anti-social behaviour. These outcomes were assessed by 6 different measures utilising child, parent and teacher responses. Secondary outcomes included school attendance; peer interactions; ADHD behaviours; child victimisation; conflict tactics; parental relationships; and trait emotional intelligence. These outcomes were assessed by 15 different measures utilising child, parent and teacher responses.

Alongside the analysis of the main effects, a series of exploratory analyses were also undertaken to assess whether there was any evidence that the programme was having differential effects for different subgroups of children. More specifically, the exploratory analyses considered: the child's gender; which of the three cohorts the child participated in; whether a child had a special educational need; the level of family affluence/poverty; the number of sessions attended by the child; the number of sessions attended by the child's parent or guardian; and child satisfaction ratings of the *Mate-Tricks* programme.

Main Findings

Of the 21 outcomes investigated, 19 showed no significant differences between the children who attended *Mate-Tricks* and the control group. However, there were 2 statistically significant effects of the *Mate-Tricks* programme and 3 other effects that approached significance.

The 2 significant effects found were unfavourable and both were based on child self-report. There was an increase in the primary outcome of child-reported anti-social behaviour (d=+0.228) and also an increase in the secondary outcome of authoritarian parenting (d=+0.311). There was one further adverse effect that approached significance, i.e. an increase in liberal parenting (d=+0.259).[1] However, none of these negative effects were reported by parents or teachers.

[1] Please note authoritarian and liberal parenting styles are not opposites. Parents can be high or low in each of these parenting styles independent of one another.

There were 2 positive programme effects on secondary outcomes that approached significance. These were an increase in conflict tactics reported by the children (*d*=+0.208) and an improvement in relationships with mothers reported by the children (*d*=+0.204).

Although the negative effects are not desirable, they are understandable given the considerable number of negative effects produced by social and emotional learning programmes reported in both previous and currently emerging research evidence from rigorous evaluations. The lack of effects and the few negative effects found in this study replicates findings in several recent studies of after-school behaviour programmes.

Exploratory analysis

The exploratory analysis was conducted to identify if any of the *Mate-Tricks* effects were influenced by other factors. Both primary and secondary outcomes were influenced by a range of factors including the cohort the child participated in; whether or not they had a special educational need; and the amount of sessions they attended. However, the most consistent and statistically significant influences were the number of *Mate-Tricks* sessions attended by parents and children's general satisfaction with the *Mate-Tricks* programme (i.e. *Mate-Tricks* session tasks, session behaviour and facilitator dispositions). These influences can be summarised as improved child and parent engagement.

These findings could suggest that if *Mate-Tricks* were to be adapted, with a focus on only recruiting parents and children who are likely to engage with the programme, there could potentially be positive effects of the programme. However, this is problematic since recruiting parents who will engage is a difficult task within communities of particular social and economic disadvantage, like Tallaght West. In fact, the process evaluation revealed that facilitators went to considerable effort, and were already employing numerous strategies, to boost parental involvement. Furthermore, a programme that only serves a section of the community (i.e. engaged parents and children) would not meet the original aim of a programme based upon community need.

Process evaluation

The *Mate-Tricks* Process Evaluation views and observations of the programme are generally very positive. This may appear to be in contrast with the findings from the main analysis of programme effects. However, the process evaluation findings are not necessarily in clear disagreement with the outcome findings. In fact, it is suggested that they support specific aspects of the exploratory analysis. This inference is based on the fact that process information was generally gathered from stakeholders (children, parents, school principals, facilitators, service providers and CDI) who were engaged and invested in the programme. Similarly, the exploratory findings provide evidence that those engaged in the programme obtained the most beneficial and potentially positive programme effects. In essence, the combined findings from the process evaluation and the outcomes data provided by engaged parents and their children is more favourable towards the *Mate-Tricks* programme than the findings from the full sample of parents and children.

What is also clear from the process evaluation is the commitment and hard work of the service providers and facilitators. Therefore, it can be concluded that the absence of positive effects are not due to a lack of desire or effort, on their part, to improve children's outcomes. Rather, the model of change or tools provided to them (i.e. the *Mate-Tricks* programme) was not effective in this particular community context.

Conclusion

In conclusion, it should be highlighted that there were no effects on the majority of the 21 outcomes investigated in this study. In addition, there were negative effects on 2 outcomes. There may be a number of potential reasons for the absence of effects and the few negative effects of the *Mate-Tricks* programme. Emerging research on after-school behavioural programmes would suggest the following factors may have an inhibiting influence: child fatigue after the school day; negative peer influences in referral-based programmes; differing behaviour expectations of children between school and after-school programmes; and participant recruitment and retention difficulties. This research would highlight the difficulties of engaging parents and children in communities of particular social disadvantage and its resultant influence on pro-social behaviour programme effects.

In general, there are many challenges in achieving positive effects in behaviour-focused after-school programmes. In fact, recent evidence would suggest that this type of programme may not be a useful or cost-effective service in areas of particular social and economic disadvantage. Therefore, it is recommended the choice of any after-school programme focused on changing child behaviour is considered very carefully. Ideally, these considerations should be made in the light of available evidence. However, specific evidence on behaviour-based after-school programmes is scarce and, as indicated, not always very positive.

Recommendations

A number of recommendations are made in light of the findings above. It should be acknowledged that these recommendations have been refined in response to valuable feedback from key stakeholders (including school principals, service providers, facilitators, parents and CDI). This feedback was gathered during a series of reflection groups based on a draft version of the report. In fact, the feedback from these stakeholders has been considered in a number of other aspects of the final report's presentation.

1. As the *Mate-Tricks* programme showed mostly no effects, and 2 statistically significant negative effects, it is recommended that its delivery is discontinued.
2. The current after-schools provision being provided through the *Mate-Tricks* programme should be replaced with previous community after-school services, which were delivered before *Mate-Tricks*, utilising the skills and professional judgement of the existing facilitators. This should be done until alternative evidence-based programming can be implemented in its place.
3. As facilitators have developed extensive skills and experience in manualised service delivery, this capacity should be utilised in ongoing children's service design, planning and implementation in the Tallaght West community.
4. There is a significant body of research evidence highlighting the difficulties of implementing after-school programmes focused on child behavioural change. Thus these programmes should be implemented with a high degree of caution, particularly in areas of social and economic disadvantage.
5. After-school programmes focused on behavioural change should be rigorously piloted and evaluated before being rolled out since they do not necessarily produce positive effects and have the potential to produce negative effects.

Chapter 1: Background and Context

Mate-tricks

Mate-Tricks is an after-school programme designed to promote pro-social behaviour in Tallaght West (Dublin). Tallaght West has been designated as an area of particular social and economic disadvantage, with high levels of unemployment. It is comprised of four communities – Brookfield, Fettercairn, Jobstown and Killinarden. The area has over 23,312 residents (Census 2006). *Mate-Tricks* is part of a wider 10-year strategy that began in 2003 and was led by the Childhood Development Initiative (CDI) with the aim of improving the health, safety and learning of children, and of increasing their sense of belonging to the community.

The *Mate-Tricks* programme was developed in response to a Request for Tender document that was circulated to several programme developers by CDI. A number of core objectives were identified and submissions invited to demonstrate how their programme could (and has been shown to) respond to these needs. CDI received five submissions, some from outside Ireland. The short-listing process was based on agreed criteria, including evidence, relevance of the programme to the identified need, cost and sustainability. One of the proposals submitted was from Archways, who proposed the merging of elements of two pro-social behaviour programmes: the Strengthening Families Program (Kumpfer and Alvardo, 2003) and the Coping Power Program (Lochman and Wells, 2002a).

Three cohorts of children participated in the *Mate-Tricks* programme between 2008 and 2011. The programme is a one-year multi-session after-school programme with 59 child, 6 parent and 3 family sessions, with each session lasting 1½ hours. The programme is aimed at improving pro-social behaviour among children aged 9-10 years (Irish 4th class).

The programme targets a wide variety of themes in the child sessions: communication, staying calm, social problem-solving, managing emotions, self-awareness (from the Strengthening Families Program), awareness of feelings, self-control, coping, perspective-taking, problem-solving and handling conflict, and peer pressure (from the Coping Power Program). In order to improve parenting skills and improve parent/child/sibling interactions, the programme also has parent and family elements. The parental aspect of the programme is based around the following themes: understanding your child, encouraging good behaviour, limit setting, communication and problem-solving (from the Strengthening Families Program). The family element is built on the following themes: communication, family values, empathy and problem-solving (from the Strengthening Families Program).

The intended outcomes of this programme are stated as follows in the *Mate-Tricks* manual (CDI, 2010, p. 45):

- enhance children's pro-social development;
- reduce children's anti-social behaviour;
- develop children's confidence and self-esteem;
- improve children's problem-solving skills;
- improve child-peer interactions;
- develop reasoning and empathy skills;
- improve parenting skills;
- improve parent/child interactions.

As part of the implementation process, a rigorous evaluation of the effects of the programme was completed by the Centre for Effective Education at Queen's University Belfast, which included a randomised controlled trial (RCT) looking at the effects of the programme on child outcomes and a process evaluation investigating its implementation.

Chapter 2: Literature Review

The following literature review is divided into seven sections. The earlier sections examine the overall pattern in relation to the effectiveness of pro-social behaviour intervention programmes and the factors that influence effects. The later sections take a closer look at the implementation of pro-social behaviour programmes and its influence on effectiveness, together with potential methodological biases caused by evaluation research designs.

2.1 Introduction

The first issue to consider is that the concept of pro-social behaviour is diverse and overlaps with many associated topics, such as social skills training, social and emotional learning, emotional health and well-being, and child mental health. This diversity results in a wide range of definitions associated with the broad topic (*see further discussion in* Department of Health, 2004; Wigelsworth *et al*, 2010; Connolly *et al*, 2011). This diversity produces two questions for the following review of effectiveness: (1) What programmes target pro-social behaviour? and (2) What evaluation outcomes are relevant? For example, a pro-social behaviour programme may be focused on social and emotional learning outcomes, and vice versa. Finally, relevant outcomes may be in many domains, including physical, psychological, social and economic.

Due to reasons of brevity, it is not possible to cover all interventions and outcomes in this literature review. Therefore, the following steps have been taken to retain focus on the most pertinent issues. Preference is given to major systematic reviews and meta-analyses of multiple studies in the area; studies that focus on the component programmes (Strengthening Families Program and Coping Power Program); and evaluations that feature the majority of the *Mate-Tricks* outcomes *(see Chapter 1)*. In addition, the review will be guided by the functional definition of pro-social behaviour outlined in the *Mate-Tricks* programme manual (CDI, 2010, p. 24) – '*effectiveness in interaction and communication with others and an ability to consider outcomes or occurrences from both one's own and other perspectives*'.

2.2 Effectiveness of pro-social behaviour programmes

A wide range of manualised programmes have been designed to reduce negative behaviours and promote pro-social skills in children, schools and their families. Examples include the Strengthening Families Program, Coping Power Program, PATHS® (Promoting Alternative THinking Strategies) (Greenberg *et al*, 1995) and The Incredible Years (Webster-Stratton and Reid, 2003). The effectiveness of this type of programme has been widely researched, with many studies using experimental designs, and several authors have published meta-analytic reviews.

A meta-review of 19 systematic reviews of the effectiveness of social and emotional learning and life skills programmes showed these interventions have a positive effect in four main areas: (1) improve the teaching of social skills; (2) reduce a wide range of child anti-social behaviour outcomes; (3) enhance a wide range of pro-social children's outcomes; and (4) enhance children's academic performance. The review suggested the keys to success of these programmes are that they are underpinned by a clear theory; they are of a significant duration (7 months to a year); they are supported by a community strategy; and they use well-trained programme providers (Diekstra, 2008).

Table 2.1 shows a range of effect sizes from several meta-analytic reviews that looked at interventions to improve pro-social behaviour related outcomes. The studies are separated into those that report immediate post-intervention effects and those that report follow-up effects after a period of time. Overall, the data show that most reviews report small to medium effects on a range of outcomes both in the short term, (weighted mean effect of 0.30) and in the medium and long-term (weighted mean effect of 0.22). When comparing across the short-term and follow-up studies by Diekstra (2008) and Losel and Beelman (2003), it would appear that the positive effects of these interventions decrease over time. One atypical case is that for children with assessed mental health issues, where positive outcome effects increase over time. This would indicate longer term improvement for children with clinical problems receiving interventions of this type.

It is important to note that not all studies of pro-social behaviour programmes show positive results. Lipsey (1992) estimated 29% of behavioural intervention studies report adverse effects and further suggested this estimate is likely to be conservative because of publication bias (see Easterbrook *et al*, 1991). Another systematic review of school-based anti-bullying programmes found that half of the examined interventions that reported significant reductions in bullying also found that there was an increase in bullying in some sections of the sample (Vreeman and Carroll, 2007). Furthermore, Teglasi and Rothman (2001) showed that following an intervention with a sample of at-risk 4th and 5th grade African-American children, there was a reported increase in anti-social behaviours. It has been suggested that cognitive capacity (mediated by age or developmental level), intervention programme type and peer influences are responsible for these adverse effects (Aber *et al*, 1998; Dishion *et al*, 1999; McCart *et al*, 2006).

In addition, a number of studies have investigated the impact of after-school programmes on children outcomes across a range of dimensions, including developmental, academic, behavioural, social and emotional (Lauver, 2002; Dynarski *et al*, 2003; Weisman *et al*, 2001). A review of after-school programmes by Zief *et al* (2006) showed that 84% of the 92 outcomes evaluated (from 5 studies that met inclusion criteria) showed no significant differences between the intervention and control groups. Of the small number of studies that examined social and behavioural outcomes, a significant adverse effect was found on self-care and peer associations. The main conclusion of this review was: '*Students may be supervised, but are not in an environment conducive to promoting positive behaviors*' (*ibid*, p. 24).

Furthermore, recent studies of other after-school programmes by James-Burdumy *et al* (2008) and Linden *et al* (2011) also found some negative effects on child-reported behavioural outcomes. James-Burdumy *et al* (2008) offer some evidence that this effect is caused by different disciplinary standards between school and after-school contexts. The authors also generated two further hypotheses for future testing in this context, namely: increased fatigue causes 'acting-out' behaviours from the children, and potentially negative influences of peers also attending the programme.

Table 2.1: Effect sizes from a range of meta-analyses (meta²-analysis) on social and behavioural interventions for a range of outcomes

Author	Outcomes	No. of studies	Mean effect size (Cohen's *d*)*
SHORT-TERM OUTCOMES			
Diekstra (2008)	Academic achievement	9	0.50
	Anti-social behaviour	31	0.48
	Clinical mental health problems	10	0.16
	Positive self image	6	0.69
	Pro-social behaviour	6	0.59
	Social skills	31	0.74
	Substance misuse	10	0.11
Losel and Beelman (2003)	Anti-social behaviour	80	0.26
	Social skills	61	0.39
	Social cognitive skills	57	0.40
Quinn *et al* (1999)	Mental disorders	35	0.20
Reddy *et al* (2009)	Emotional disturbance	5	0.42
Wilson *et al* (2003)	Aggressive behaviour	334	0.23
January *et al* (2011)	Social skills	28	0.15
Weighted mean**		**703**	**0.30**
MEDIUM TO LONG-TERM OUTCOMES			
Diekstra (2008)	Academic achievement	7	0.25
	Anti-social behaviour	14	0.17
	Mental disorders	8	0.37
	Positive self-image	9	0.08
	Pro-social behaviour	6	0.13
	Social skills	13	0.05
	Substance misuse	15	0.20
Losel and Beelman (2003)	Anti-social behaviour	20	0.22
	Social skills	16	0.38
	Social cognitive skills	12	0.33
Weighted mean**		**120**	**0.22**

* Occasionally, reviews of these programmes report mean effect sizes with negatives (-), which refers to a reduction in negative behaviours and is therefore a positive programme result. For example, if anti-social behaviour has a short-term pooled mean effect size of -0.48, overall the programmes are reducing anti-social behaviour and thus is a positive result. However, for the purposes of simplicity, all the positive effect sizes reported here refer to positive change in behaviour.

** This is calculated from (number of studies x effect size)/total number of studies.

2.3 The influence of implementation quality on effectiveness

The effectiveness of pro-social behaviour programmes depends on their implementation quality (Derzon *et al*, 2005; Durlak and DuPre, 2008; Cross *et al*, 2010; Farrell *et al*, 2001; Gottfredson and Gottfredson, 2002; Dusenbury *et al*, 2005). In a meta-analytic study, Derzon *et al* (2005) showed that only substance abuse interventions with high implementation quality exhibited a significant effect. Durlak and DuPre (2008) showed that the outcomes of over 80 school-based prevention programmes were influenced by implementation quality. Furthermore, Cross *et al* (2010) showed that a number of contextual factors, such as communities' delivery and support systems, had an influence on effectiveness.

Losel and Beelman (2003) showed instructional modality to be a significant predictor of the development of pro-social skills among the studies that reported it. Active instructional modalities (i.e. group work such as role plays) demonstrated a significantly greater effect size than passive, traditional instructional modalities (i.e. presentations). Also, the amount of exposure to the intervention was a significant predictor of effects. A study of the implementation of the Coping Power Program found that its effectiveness and implementation may depend on the training intensity and quality of those who deliver it (Lochman *et al*, 2009).

A significant review by Durlak *et al* (2011) has recommended that social and emotional learning programme implementation will result in greater effects if it follows 'SAFE' training practices, meaning:

- **S**equenced and step-by-step training approach (building up concepts).
- **A**ctive forms of learning (like group work and role plays).
- **F**ocused time on skills development (such as emotional intelligence skills).
- **E**xplicit learning goals (demonstrations of appropriate outcomes, e.g., pro-social behaviour).

These SAFE practices have also been found to be an influencing factor in the effectiveness of after-school programmes when developing personal and social skills (Durlak *et al*, 2010).

In addition, programme complexity, fidelity, mismatch between school and intervention's mission, lack of training and support present another set of implementation issues (Dumas *et al*, 2001; Hallfors and Godette, 2002; Hallfors and Van Dorn, 2002; Thaker *et al*, 2008). For example, Hallfors and Godette (2002) reported that only 19% of evidence-based prevention programmes reported fidelity, an essential measure of whether an intervention meets its theoretical goals and whether it is conducted in a consistent way with all participants. Low fidelity would directly have an effect on the programme's validity and indirectly affect the study's power (Dumas *et al*, 2001). Furthermore, Thaker *et al* (2008) described a variety of issues that arose during implementation of their Reconnecting Youth (RY) programme. They identified: (a) a lack of properly trained staff or inability to train available staff; (b) substantial change within schools (e.g. repairs, reforms); and (c) a lack of support, either financial or administrative. Overall, the implementation of these programmes requires a combination of clear leadership, supportive staff, availability of resources and partnerships with parents, community, pupils and other agencies. It is worth highlighting that all of these factors form part of the Childhood Development Initiative (CDI) strategy.

Implementation also requires the development of systems, structures and practices whereby the implementation of the programme can be monitored and reviewed on an ongoing basis (Domitrovich *et al*, 2008). It should be understood that implementation takes time to embed and positive changes may not be immediately apparent (Adelman and Taylor, 2003; Dusenbury and Hansen, 2004).

2.4 Research evidence on Strengthening Families Program and Coping Power Program

Mate-Tricks and the two programmes that were combined to create it – the Strengthening Families Program (SFP) and the Coping Power Program (CPP) – are multi-component interventions that combine child-only social skills training and parent-only social skills training with parent–child social skills training. Generally, these types of programmes seem to have promising results (Hawkins *et al*, 1999; Kazdin *et al*, 1992; Webster-Stratton and Hammond, 1997; Kumpfer and Alvardo, 2003; Kumpfer *et al*, 2010).

The **Strengthening Families Program** is based on a social ecology model and it is placed as a 'promising program' within the internationally recognised list of Blueprints Programs for Violence Prevention (Blueprints, 2011). Promising programmes are in the second tier of programmes that show promising results, while first tier interventions are considered 'model programs' and have the best available evidence to support their effectiveness.

A range of studies have reported on the effectiveness of the Strengthening Families Program. Kumpfer *et al* (2010) provide a positive review of its effects for both national and international versions of the programme. Medium to high effects have been reported for child-only, parent-only and child–parent outcomes across three different age groups (Kumpfer *et al*, 2010). The strongest effects were found for the age group 6-11 years. However, several other control group studies have shown less clear evidence. Semeniuk *et al* (2010) showed that the programme had mixed effects on outcomes: as expected, youth hostility decreased, but there were negative effects on two outcomes – parent hostility increased and parent positive problem-solving decreased. Another study by Riesch *et al* (2012) has shown that children receiving a full dose of the programme showed moderate improvement effects, but those receiving a partial dose (not all sessions) showed moderate decline effects. Gottfredson *et al* (2009) also identified a significant adverse effect of the programme on children's reports of negative peer associations. Major challenges with recruitment and retention of participants were given as a reason for the adverse effects.

Kumpfer *et al* (2008) provided a guide for international dissemination of the programme which is culturally appropriate. The programme has shown promising results in different cultural contexts (Erikson, 2002) and outside the USA (Orte *et al*, 2007a and 2007b; Onrust and Bool, 2006). However, other studies of international translation have shown no discernable effects (Skärstrand *et al*, 2010).

The **Coping Power Program** is based on a social cognitive model and has shown promising effects. A study by Lochman *et al* (2004) showed significant effects, including reductions in boys' self-reported covert delinquency; reduction in parent-reported substance use in their parent–child intervention; and improvement in the boys' school behaviour for both the child-only and parent-child conditions. Dissemination of the program places a strong emphasis on training of the Coping Power providers/counsellors (Lochman *et al*, 2009). The Coping Power Program has also been shown to have effects at one year follow-up and there is evidence of 'radiance effects', such as substance misuse reduction for children in the same classroom as those who have received the Coping Power Program (Lochman and Wells, 2002b).

2.5 Demographic influences on effectiveness

A number of meta-analyses and single studies have revealed demographic influences on the effectiveness of pro-social behaviour programmes.

One of the major influencing variables in these programmes is age (Diekstra, 2008; Kaminski *et al*, 2008; Kumpfer *et al*, 2010). For example, Diekstra (2008) reviewed the literature on the effectiveness of Social Emotional Learning (SEL) and Skills for Life (SFL) programmes and reported that young children (less than 6 years of age) and adolescents benefit

the most. In addition, Kaminski *et al* (2008) demonstrated that pre-schoolers (less than 7 years of age) involved in parent–child interactive sessions report significant effects for some outcomes, such as parents' positive interactions, problem-solving and parents' responsiveness and nurturing.

A meta-analysis by January *et al* (2011) reported that age at intervention had a positive effect on the development of social skills, where pre-schoolers and kindergarteners seemed to benefit the most compared to primary and secondary graders, while adolescents showed lower, but significant effects. Fossum *et al* (2008) also report that younger children show higher gains than older children. McCart *et al* (2006) showed younger children (6-12 years) benefited more from the Behavioural Parent Training (BPT) than Cognitive Behavioural Therapy (CBT) programmes, while regression analysis showed that older children (over 13) gained more from the CBT than BPT programmes. McCart *et al* (2006) attributed this result to the fact that parent-based interventions are more effective with younger children. These children are still more dependent on their parents' care and thus more responsive to parental training. Conversely, cognitive-behavioural therapy has greater cognitive demands which only the adolescents can meet (Durlak *et al*, 1991). This evidence supports what Kumpfer *et al* (2010) have found with the Strengthening Families Program – that it is most effective for pre-adolescent children and those in their early teens. Adverse effects also seem to be influenced by age. For example, Baldry and Farrington (2004) found that Italian middle school children, aged 11-13, increased their aggressive behaviours compared to older children (aged 14-16).

The risk level of children has been shown to influence pro-social behaviour programmes. Dolan *et al* (1993) reported an 'at-risk' effect where only high-risk boys benefited from the two classroom-based interventions designed to reduce aggression and improve academic achievement. Quinn *et al* (1999) showed targeted programmes with high-risk children had larger effects than universal programmes. Wilson *et al* (2003) also showed larger effects on reducing aggressive behaviour with high-risk children. Across a range of study designs, Reddy *et al* (2009) reported larger effects for targeted intervention studies with at-risk children (programmes for children already exhibiting anti-social behaviour) than for universal prevention programmes.

Other demographic variables have been identified as influential, including gender, socio-economic status and ethnicity (Griffin *et al*, 2000; Dolan *et al*, 1993; Hawkins *et al*, 1991 and 1999). Griffin *et al* (2000) demonstrated a gender–family structure effect in a study with predominantly African-American adolescents. Parents' lack of supervision was associated with significantly heavier drinking in boys and more smoking for girls. Hawkins *et al* (1991) reported in their study of the Seattle Social Development Project that there were significant positive results in reducing white boys' aggressive behaviours, but a similar effect was not found for African-American boys. Moreover, Hawkins *et al* (1999) showed a significant influence of socio-economic status on several outcomes such as school attachment and being pregnant/fathering a baby. However, studies by Lochman and Wells (2003a and 2003b), Lochman *et al* (2004) and Wilson *et al* (2003) did not find that gender, ethnicity or socio-economic status had an influence on substance abuse or aggressive behaviours in the Coping Power Program. January *et al* (2011) also showed that the effects of the socio-economic status of participants failed to reach statistical significance, yet the trend pointed out that students coming from lower socio-economic backgrounds gained more than their middle-class peers. Overall, there is an inconclusive picture in terms of demographic influences and this may depend on programme type.

2.6 Evaluating pro-social behaviour interventions

Meta-analyses and systematic reviews have shown experimental influences on reported effects. Generally poor study quality correlates with inflated effect sizes (Sukhodolsky *et al*, 2004; Bennett and Gibbons, 2000).

A review of the effectiveness of psychosocial programmes for reducing adolescents' aggression by Fossum *et al* (2008) has revealed different mean effect sizes for studies with two different designs: (1) controls studies (*d*=0.62) and (2) no controls studies (*d*=0.95). In other words, studies with no control groups provide larger effects. Additionally, Fossum *et al* (2008) found higher effect sizes were associated with studies with smaller samples. This pattern is repeated in other meta-analyses of programmes of this type (Serketich and Dumas, 1996). This was seen as a limitation since the power and rigour of a study is considered higher if larger samples are recruited. The analysis revealed that sample size moderated the reduction of aggression levels in untreated controls design with smaller samples reporting higher effect sizes (*d*=0.37) than large samples (*d*=0.17). Quinn *et al* (1999) also showed that studies with small sample sizes had larger effects.

Other experimental factors, such as the use of certain outcome measures, contamination effects, and collecting follow-up data, can introduce bias (Farrell *et al*, 2001). For example, measures should closely match outcomes as demonstrated by the 'specificity matching principle' advocated within the self-esteem assessment literature (Marsh and O'Mara, 2008). Also, if measures of key behaviours, such as pro-social behaviour, have low reliability or validity, then any results would be less meaningful. A final issue with measures is the use of retrospective outcome measures. It has been shown that gathering parents' reflections after an intervention on their pre-intervention attitudes/behaviours and then using these reflections as a pre-test measure will inflate effect sizes and should not be used in evaluating effectiveness of programmes (Hill and Betz, 2005). In other words, if pre-test measures are collected retrospectively at post-test, misleading and inflated results are likely to be obtained.

Contamination effects can be problematic if students allocated to a control condition are somehow heavily exposed to elements of the treatment condition. Other experimental effects, such as Placebo, Hawthorne and Pygmalion effects, can have an influence. In short, being part of a research project can sometimes lead to beliefs that outcomes are improving.

Lastly, most intervention studies do not report follow-up effects for more than a year afterwards. Generally, the effect size at the follow-up is usually less than that measured at the end of the intervention *(see Table 2.1)*. Follow-up studies are further complicated by high attrition rates (loss of participants over time), which can have adverse influences on the results (Farrell and Meyer, 1997).

2.7 Conclusion

In sum, most interventions that promote pro-social behaviours in young people show low to medium effectiveness. However, there is evidence that up to a third of these programmes can have adverse effects. Therefore, it is particularly important to understand influencing factors and implementation issues. As a whole, most studies seem to agree that age and risk level are significant influences of an intervention's effects, with the youngest groups of high-risk children benefiting most often. However, there is mixed evidence about the influences of other demographic variables and limited knowledge of how these relate to the programme type or content. Issues can be further complicated by variability in implementation and therefore standard implementation models, such as SAFE, can prove useful (Durlak *et al*, 2010 and 2011).

Ultimately, when combining the potential for adverse programme effects with a wide range of possible demographic and implementation influences, a rigorous and robust evaluation is critical. This is particularly important given the influences of poor evaluation research designs, which are consistently linked with spurious or inflated effect sizes. Therefore, potentially detrimental programmes can be promoted as beneficial ones. Specifically, in relation to research design control groups are important, as is a large enough sample size, with outcomes clearly stated at the outset and measured in an unbiased way. Furthermore, information about how implementation and programme content is related to effects is very valuable.

Chapter 3: Methodology

Mate-tricks

This chapter provides an outline of the two components of the *Mate-Tricks* evaluation: the randomised controlled trial (RCT) and the process evaluation. An overview of the measures and analyses for both components is presented. Information on challenges and limitations is included, as well as details of agreed changes made to the original proposal.

3.1 Outcomes

For the purposes of the present evaluation, an outcome was defined as a real and discernible change in attitudes and/or behaviour that has occurred as a direct result of participating in *Mate-Tricks*. This study focused on two primary outcomes: pro-social and anti-social behaviour. These were measured in several different ways through the Pro-Social Behaviour Questionnaire (PSBQ) and the Child Behaviour Checklist (CBCL). In addition, 15 secondary outcomes were also assessed. The primary outcomes are considered to be the main effects of participating in *Mate-Tricks* and were:

- the children's pro-social behaviour (child PSBQ and parent PSBQ);
- the children's anti-social behaviour (child CBCL, child PSBQ, parent CBCL, parent PSBQ and teacher CBCL).

The secondary outcomes, considered important precursors to change in the primary outcomes, were:

- school attendance;
- frequency of observations of behaviours associated with ADHD[2] (teacher report);
- children's victim perceptions (child report);
- children's ability to deal with conflict or conflict tactics (child report);
- children's attendance at clubs (child report);
- children's good friends (child report);
- child/mother relationship (child report);
- child/father relationship (child report);
- liberal parenting (child report);
- supportive parenting (child report);
- authoritarian parenting (child report);
- positive parenting (parent report);
- inconsistent punishment (parent report);
- Child Trait Emotional Intelligence score (child report);
- Child Trait Emotional Intelligence score (teacher report).

These outcomes reflect the core aims and objectives of the programme and were agreed in conjunction with the CDI team.

[2] Attention Deficit Hyperactivity Disorder

3.2 Randomised controlled trial and a rolling cohort design

The current study utilised a 3-year rolling cohort design. In other words, the effectiveness of the intervention was not assessed until all cohorts had completed the intervention and the results reported here are pooled from all three successive cohorts. In *Mate-Tricks*, children completed the pre-test at the beginning of the programme in September and the post-test at the end of the programme in June. A rolling cohort design ensures that the impact of the intervention (such as *Mate-Tricks*) is looked at in a longitudinal way (i.e. over the three cohorts) and provides a sufficient sample size for statistical comparisons and effect size calculations.

In *Mate-Tricks*, it was proposed that 210 children would be referred to the programme each year for 3 years, giving a maximum proposed total sample of 630 children. With the rolling cohort design, particular care was taken over potential contamination effects and therefore the main outcome results – comparison of pre- and post-test scores between the control and intervention groups – were not analysed until the final cohort had completed the programme. Releasing interim results may have had undesirable and unintentional effects on the delivery of the programme and/or undermined the validity of the evaluation. Also, any interim outcomes would only be tentative or perhaps even misleading. Given that all three cohorts of children have now completed the programme, this report therefore presents descriptive, contextual and comparative data in relation to the measured outcomes. In other words, the main focus of this report is to compare the pre- and post-test scores for all three cohorts according to the outcomes measured.

3.3 Sample

A sample size power calculation was calculated based on: identifying an effect size with a Cohen's *d* in the range of 0.2-0.4; a statistical power level of 0.8; having a minimum of two predictors in the model; and identifying a probability level of 0.05. The desired sample size was calculated to be in the range of n=241-478. The initial child sample for the study was N=592, which exceeded the sample size required. After attrition, the sample still remained within the required range (N=347).

3.3.1 Children

The child evaluation assessed 74% (N=435) of the 592 children referred to the *Mate-Tricks* programme at pre-test, across the three cohorts. In total, 59% (N=347) completed both pre- and post-test questionnaires across the three cohorts (see *Table 3.1*).

Table 3.1: Number of children randomised and pre- and post-testing completed, by school

School	No. of Children referred (% of total)	Children completed pre-test (% of total)	Children completed pre- and post-test (% of total)
School H	151 (25.5)	74 (17.0)	44 (12.7)
School I	70 (11.8)	56 (12.9)	45 (13.0)
School J	88 (14.9)	70 (16.1)	56 (16.1)
School K	95 (16.0)	78 (17.9)	67 (19.3)
School L	88 (14.9)	75 (17.2)	64 (18.4)
School M	84 (14.2)	70 (16.1)	61 (17.6)
School N	16 (2.7)	12 (2.8)	10 (2.9)
Total	592 (100.0)	435 (100.0)	347 (100.0)

3.3.2 Teachers

The response rate for returns of the teacher questionnaires at pre-test was 52% (N=309). In total, 47% (N=279) returned both pre- and post-test questionnaires *(see Table 3.2)*.

It is important to note that there were no returns from School H because it withdrew from this element of the evaluation and no teacher questionnaires were collected from this school. Several attempts were made by CDI to get buy-in from School H with support from the service provider. However, the school principal stated that the nature of the evaluation went 'against the ethos of the school'. The principal then changed and the person who took over agreed to provide the service provider with a list of pupils from 4th class. They did not formally refer the children, but providing this list allowed the service provider to visit the children's homes and ask parents to refer their child to the programme. Information on the randomisation process and evaluation was provided to parents at that stage. Given that it was possible to access the children and their parents and that the service provider could manage it in this way, it was decided that School H should be included.

Table 3.2: Number of children randomised and pre- and post-test questionnaires completed by teachers, by school

School	No. of Children referred (% of total)	Teachers providing pre-data (% of total)	Teachers providing pre- and post-data (% of total)
School H	151 (25.5)	0	0
School I	70 (11.8)	37 (12.0)	36 (12.9)
School J	88 (14.9)	74 (23.9)	58 (20.8)
School K	95 (16.0)	40 (12.9)	40 (14.3)
School L	88 (14.9)	61 (19.7)	58 (20.8)
School M	84 (14.2)	81 (26.2)	72 (25.8)
School N	16 (2.7)	16 (5.2)	15 (5.4)
Total	592 (100.0)	309 (100.0)	279 (100.0)

3.3.3 Parents

The return rate for the parent questionnaires was 42% (N=249) at pre-test. In total, 21% (N=122) returned pre- and post-test questionnaires (see *Table 3.3*). The parental data was initially collected through postal questionnaire. For Cohorts 2 and 3, non-responders were followed-up with a second questionnaire and by telephone. This resulted in an improvement in the response rate.

Table 3.3: Number of children randomised and pre- and post-test questionnaires completed by parents, by school

School	No. of Children referred (% of total)	Parents providing pre-data (% of total)	Parents providing pre- and post-data (% of total)
School H	151 (25.5)	41 (16.5)	18 (14.8)
School I	70 (11.8)	36 (14.5)	15 (12.3)
School J	88 (14.9)	46 (18.5)	27 (22.1)
School K	95 (16.0)	34 (13.7)	21 (17.2)
School L	88 (14.9)	42 (16.9)	13 (10.7)
School M	84 (14.2)	46 (18.5)	27 (22.1)
School N	16 (2.7)	4 (1.6)	1 (0.8)
Total	592 (100.0)	249 (100.0)	122 (100.0)

3.3.4 Randomisation

The components and activities of the programme were explained to all seven schools. Subsequent to this, one school withdrew from the evaluation (School H). Teachers in the remaining six schools were asked to refer children by completing professional referral forms prior to seeking parental consent. There were issues around accessing children in School H since the school did not want to be involved with the referral, consent or evaluation processes. Therefore, CDI advertised the programme within the community and approached parents (instead of schools) about involving their children in the *Mate-Tricks* programme. The parents then completed the referral forms for children in School H.

Teachers/parents were asked to indicate whether or not a child had a Special Educational Need (SEN) for two reasons: firstly, so that CDI could establish whether or not the programme was appropriate and, secondly, to make provisions for necessary support if the programme was deemed appropriate. It is important to note that, in some schools, virtually every child was referred. This was because of small numbers in these schools. In total, 192 children were referred in Cohort 1, 201 were referred in Cohort 2 and 199 children were referred in Cohort 3. The names of all children, for the relevant cohort, were then forwarded to the evaluation team for random allocation.

The children were randomly selected to the intervention or control group using a simple random allocation process through a raffle procedure. In total, 6 sites ran the *Mate-Tricks* programme. There were 15 places available in the programme for 5 settings and 30 places available in one setting. So ideally 30 children were referred for each of the 5 sites offering 15 places and 60 children were referred for the site with 30 places available. The random allocation process was conducted independently by the research team at the CDI office under the supervision of an independent observer. As a result, 285 children, respectively, were randomly allocated to the control group across the three cohorts and 304 children, respectively, were allocated to the intervention group.

Cohorts 2 and 3 were closely matched in number: Cohort 2 had 101 children in the intervention group and 100 in the control group, while Cohort 3 had 98 children in the intervention group and 101 in the control group. However, there was some disparity between the numbers in Cohort 1, with 100 children in the intervention group and 87 in the control group. The reason for this was, after randomisation, it was discovered that a substantial number of siblings and twins had been allocated to different groups. This was undesirable for the service providers and families. To rectify the situation, the twins or siblings were allocated to the same group. Furthermore, it was decided that it was not desirable to remove children

who had already been referred to the intervention group into the control group, so all applicable children were moved into the intervention group which resulted in the higher proportion in the intervention group in Cohort 1. In Cohorts 2 and 3, twins or siblings were allocated as a pair, which resulted in the more even splits.

Figure 3.1 presents the flow diagram showing how many children were in the intervention and control groups, and details on the numbers tested and the rate of attrition.

Figure 3.1: Flow diagram showing total number of questionnaires completed by CHILDREN

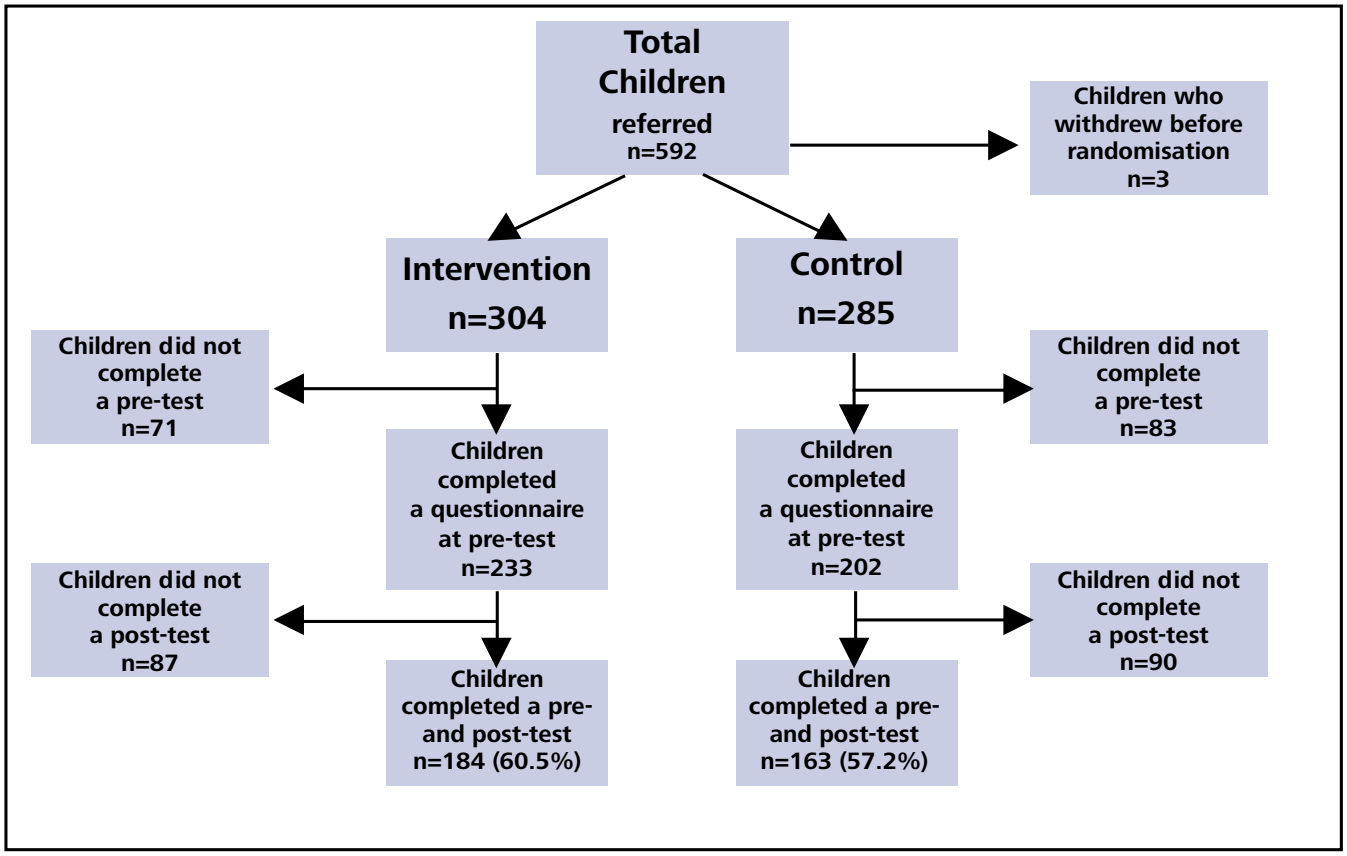

Figure 3.1 shows that there was some attrition during the various stages of testing. The major reason for this was that children were absent from school on the day of testing or left the school after referral was made. However, the pattern of attrition was similar in both the intervention and control groups, with similar numbers leaving the study at the various stages. Also, the final numbers in the analysis (61% intervention group and 57% control group) were similar.

Figure 3.2 presents the flow diagram showing the number of teachers who returned questionnaires for children in the intervention and control groups, and details on the attrition. There was some attrition in teacher responses during the various stages of testing. The major reason for this was that School H withdrew from the teacher evaluation element and teachers did not return the questionnaires. The non-return of questionnaires was most prevalent during Cohort 1, particularly at pre-test, as there was initial scepticism about the programme (*see Chapter 5, Section 5.7*). Therefore, the post-test return rates were better. However, the pattern of attrition was similar in both the intervention and control groups, with similar numbers leaving the study at the various stages. Also, the final numbers in the analysis (46% intervention group and 48% control group) were similar.

Figure 3.2: Flow diagram showing total number of questionnaires completed by TEACHERS

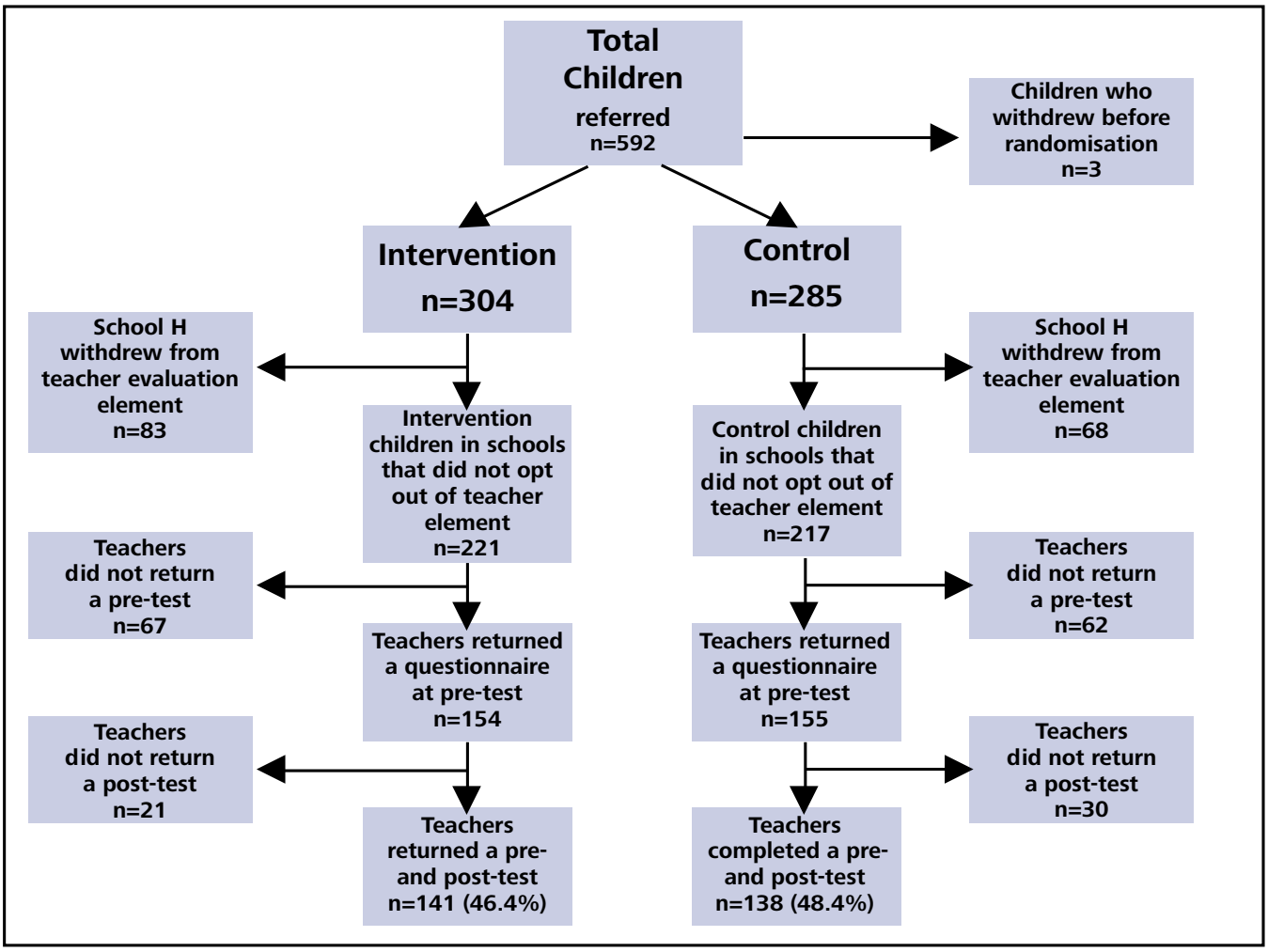

Figure 3.3 presents the flow diagram showing the number of parents who returned questionnaires for children in the intervention and control groups, and details on the attrition. There was some attrition in parental responses during the various stages of testing. The main reason for this was that parents did not return questionnaires and, furthermore, did not complete them after a second resend of the questionnaire and follow-up telephone calls (for Cohorts 2 and 3). However, the final numbers in the analysis (20% intervention group and 22% control group) were similar.

Figure 3.3: Flow diagram showing total number of questionnaires completed by PARENTS

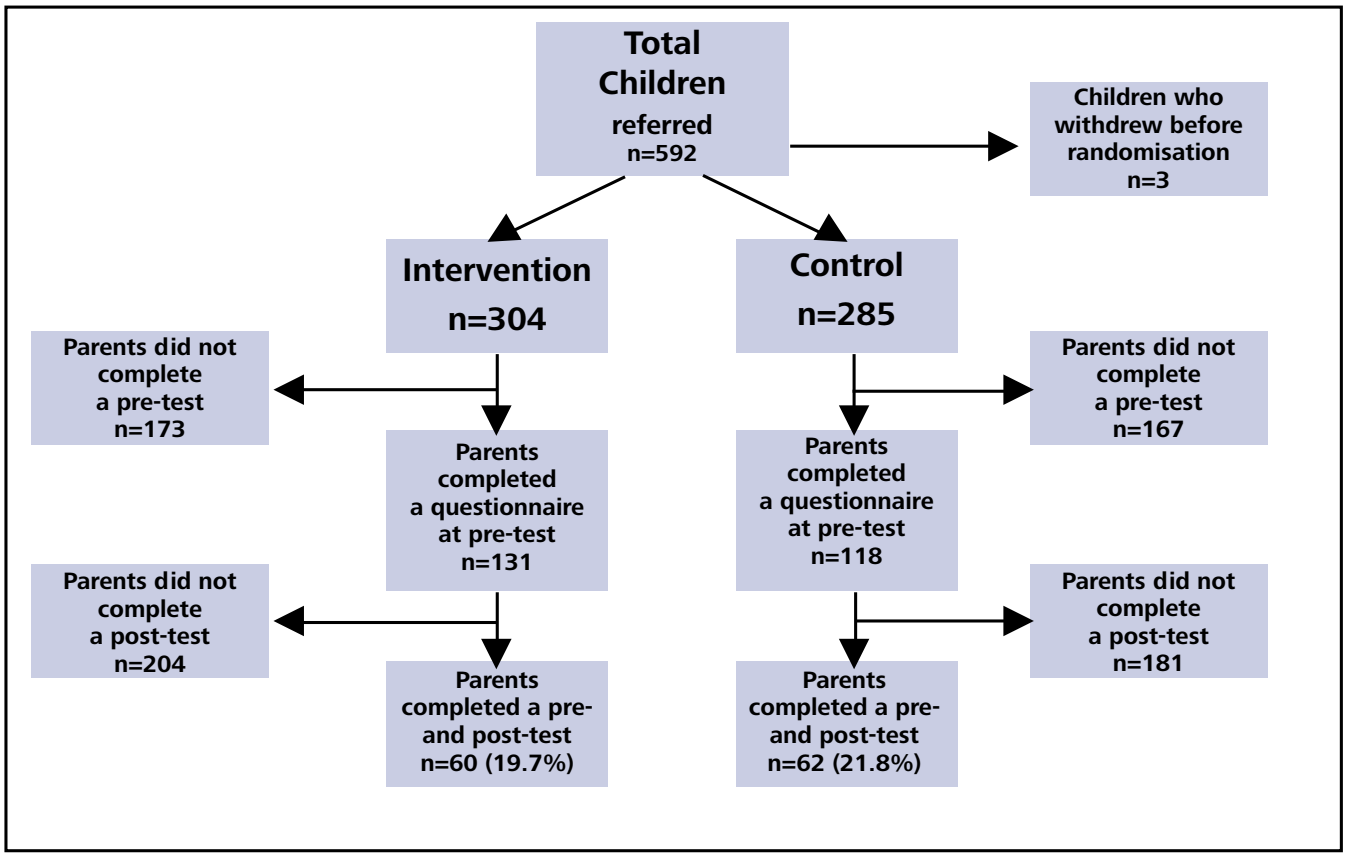

Table 3.4 explores this further to see if there were any significant differences between the two groups involved in the final analysis at the pre-test on the outcome variables and other relevant variables. Please note, this is a comparison of those who have provided full data. Therefore, it is assessing whether the attrition has led to differences between the two groups.

The evidence suggests that there are no significant differences pre-test between mean scores of both groups on any of the variables. Table 3.4 suggests that attrition rates have not led to any notable biases being introduced into the RCT in terms of creating non-equivalent groups. This means the two groups are equivalent and suitable for outcome evaluation.

Table 3.4: Means, standard deviations (SD) and significance of difference on outcome variables at pre-test on children, teachers and parents who completed both pre- and post-test

Variable	Mean	SD	Significance
Pro-social behaviour Intervention PSBQ (child report)	4.02	1.03	p=0.117,t=-1.576
Pro-social behaviour Control PSBQ (child report)	4.06	1.06	df=151.6
Pro-social behaviour Intervention PSBQ (parent report)	2.20	0.47	p=0.822, t=-0.225,
Pro-social behaviour Control PSBQ (parent report)	2.31	0.43	df=100.1
Anti-social behaviour Intervention CBCL (child report)	1.63	0.58	p=0.361, t=-0.914,
Anti-social behaviour Control CBCL (child report)	1.70	0.69	df=266.7
Anti-social behaviour Intervention PSBQ (child report)	1.60	0.79	p=0.311, t=-1.015,
Anti-social behaviour Control PSBQ (child report)	1.70	0.96	df=294.0
Anti-social behaviour Intervention CBCL (parent report)	0.85	0.38	p=0.441, t=0.733,
Anti-social behaviour Control CBCL (parent report)	0.80	0.32	df=146.5
Anti-social behaviour Intervention CBCL (teacher report)	0.36	0.70	p=0.815, t=-0.234,
Anti-social behaviour Control CBCL (teacher report)	0.38	0.63	df=200.3
School attendance Intervention	91.84	12.20	p=0.803, t=0.250,
School attendance Control	91.48	11.45	df=282.0
ADHD Intervention (teacher report)	0.76	0.79	p=0.569, t=0.570,
ADHD Control (teacher report)	0.71	0.67	df=263.2
Victim perceptions Intervention (child report)	2.56	1.19	p=0.926, t=-0.093,
Victim perceptions Control (child report)	2.57	1.18	df=325.0
Ability to deal with conflict Intervention (child report)	7.68	3.14	p=0.602, t=-0.523,
Ability to deal with conflict Control (child report)	7.87	3.45	df=316.5
Clubs attended Intervention (child report)	1.46	1.53	p=0.320, t=-0.374,
Clubs attended Control (child report)	1.40	1.41	df=339.0
Number of friends Intervention (child report)	3.22	1.13	p=0.822, t=-0.226,
Number of friends Control (child report)	3.25	1.06	df=328.2
Maternal relationship Intervention (child report)	3.62	0.91	p=0.194, t=-1.302,
Maternal relationship Control (child report)	3.76	0.89	df=288.1
Paternal relationship Intervention (child report)	3.31	1.12	p=0.543, t=-0.609,
Paternal relationship Control (child report)	3.39	1.08	df=263.8
Liberal parenting Intervention (child report)	2.24	0.64	p=0.590, t=-1.898,
Liberal parenting Control (child report)	2.40	0.72	df=239.5

Supportive parenting Intervention (child report)	3.92	0.95	p=0.365, t=-0.908,
Supportive parenting Control (child report)	4.02	0.89	df=299.9
Authoritarian parenting Intervention (child report)	2.59	1.01	p=0.772, t=0.290,
Authoritarian parenting Control (child report)	2.56	1.05	df=305.3
Positive parenting Intervention (parent report)	3.42	0.38	p=0.119, t=1.570,
Positive parenting Control (parent report)	3.30	0.50	df=107.1
Inconsistent punishment Intervention (parent report)	1.43	0.57	p=0.395, t=-0.853,
Inconsistent punishment Control (parent report)	1.52	0.57	df=111.7
Trait emotional intelligence Intervention (child report)	3.48	0.47	p=0.944, t=-0.070,
Trait emotional intelligence Control (child report)	3.48	0.44	df=344.3
Family affluence/poverty Intervention	5.10	1.81	p=0.671, t=0.425,
Family affluence/poverty Control	5.00	1.78	df=222.8

3.4 RCT measures

In the study, two primary outcomes (measured in six ways) were investigated and 15 secondary outcomes variables. Each of the outcome variables is measured by a composite mean score from several items within the research questionnaire. The primary and secondary outcome variables are provided in Table 3.5, as well as the measures and scales that contribute to the score on that outcome. The last column, showing the Cronbach's alpha score for each measure, represents the reliability of the scale. High reliability occurs when individuals consistently answer the questions within each outcome measure in a similar way.

One measure, the Alabama Parenting Questionnaire (APQ), was amended because stakeholders had requested that some items be removed. Generally, these items referred to corporal punishment. As a result, the scale underwent psychometric refinement of the sub-scales. The resultant sub-scales were named: Maternal relationship; Paternal relationship; Liberal parenting; Supportive parenting; Authoritarian parenting; Positive parenting; and Inconsistent punishment (see *Table 3.5*). These sub-scales were assessed for reliability and validity[3], and found to be psychometrically appropriate.

Overall, the measures were found to have sufficient reliability (alpha >0.07). Only one measure showed low reliability, which was 'conflict tactics' (alpha = 0.48). This was probably due to this measure only having three items. (Conflict tactics refers to children reporting conflict resolution strategies.) The poor reliability of this scale should be considered when interpreting the outcome effects in the analysis. In terms of validity, the measures have good face validity (as they specifically match the intended programme outcomes) and a factor analysis of measures (not provided in this report) suggested that all measures have good construct validity.

[3] The full psychometric analysis is not contained within this report. However, for more information please contact the authors.

Table 3.5: Primary and Secondary Outcome variables, contributing scales and Cronbach's alpha

Primary Outcome variables	Secondary Outcome variables	Measurement constructs	Measure	Source	Cronbach's alpha
Pro-social behaviour		*Pro-social behaviour:* Child self-perceptions	Peer relations and PSBQ (Rigby and Slee, 1992)	Child	0.754
		Anti-social behaviour: Child self-perceptions			0.833
		Anti-social behaviour: Child self-perceptions	CBCL (Achenbach *et al*, 2008, adapted 5-point scale)	Child	0.911
Pro-social behaviour		*Pro-social behaviour:* Parental perception of home behaviour	PSBQ (Rigby and Slee, 1992)	Parent	0.869
Anti-social behaviour		*Anti-social behaviour:* Parental perception of home behaviour	CBCL (Achenbach *et al*, 2008, adapted 5-point scale)	Parent	0.880
Anti-social behaviour		*Anti-social behaviour:* Teacher assessment of school behaviour	CBCL (Achenbach *et al*, 2008, adapted 5-point scale)	Teacher	0.961
	School Attendance	School Attendance	School records	School	*n/a*
	ADHD	ADHD	ADHD Rating Scale (DuPaul, 1991)	Teacher	0.952
	Victimisation	Victim perceptions	Peer relations and PSBQ	Child	0.846
	Conflict	Conflict tactics reasoning	Conflict Tactics (Straus, 1990)	Child	0.480
	Social engagement	Club attendance	Number of clubs attended	Child	*n/a*
	Maternal relationship	Maternal relationship	Alabama Parenting Questionnaire (APQ) (Frick, 1991)	Child	0.782
	Paternal relationship	Paternal relationship		Child	0.847

	Liberal parenting	Liberal parenting		Child	0.790
	Supportive parenting	Supportive parenting		Child	0.812
	Authoritarian parenting	Authoritarian parenting		Child	0.712
	Positive parenting	Positive parenting		Parent	0.710
	Punishment	Inconsistent punishment		Parent	0.661
	Trait Emotional Intelligence	Adaptability	TEL-QUE (Mavroveli *et al*, 2007)	Child	0.831
		Emotional expression			
		Emotion perception			
		Self-motivation			
		Self-esteem			
		Low impulsivity			
		Peer relations			
		Emotion regulation			
		Affective disposition			
		General Trait Emotional Intelligence		Teacher	0.967

3.5 Statistical analysis

The main analysis in the study was conducted using linear regression models. The exploratory analysis also utilised these models. Interactions were investigated by inserting an interaction term into the regression models. There was no clustering adjustment made to coefficients as participants had been randomised at the individual level.

Effect sizes were calculated as the standardised mean difference (Cohen's *d*) between the post-test scores of the control and intervention groups, once pre-test differences were controlled for.

A sample size power calculation was calculated based on identifying an effect size with a Cohen's *d* in the range of 0.2-0.4 (as suggested by the review of meta-analyses in Table 2.1, *see Chapter 2, Section 2.2*); a statistical power level of 0.8; having a minimum of two predictors in the model; and identifying a probability level of 0.05. The sample size desired would be in the range of n=241-478. The initial child sample for the study was n=592, which exceeds the sample size required. After attrition n=347, which is within this required range.

3.6 Process evaluation

As well as the RCT, a process evaluation examining implementation and fidelity was undertaken. The following section outlines the process instruments and data analysis of the in-depth interviews, site observations and documentation, for two main purposes:

(1) To ascertain how the programme was being delivered across different sites, identifying any variations in implementation and any other relevant factors where differences may be evident (e.g. number of children attending/dropping out, parental involvement, timetable, resources, etc).

(2) To provide insights into which elements of the programme tended to work or not, and the reasons why.

The in-depth interviews were conducted with all facilitators and other relevant service provider staff (core workers included senior youth officer; two project staff; other Tallaght youth service Foróige staff; and an Archways staff member), 4 principals and 3 members of CDI staff. Focus groups were carried out with 2 groups of children (7 children in one group and 4 in the other) and 2 groups of parents (8 parents in one group and 4 in the other). Site observations were conducted on all sites and an analysis of documentation was conducted. The process evaluation included a Client Satisfaction Survey (Cohorts 2 and 3), which focused on children's satisfaction with *Mate-Tricks* tasks, session behaviour and disposition of facilitators. As child satisfaction information was quantitative, it has been integrated into the exploratory analysis in the findings (*see Chapter 4, Section 4.3*).

3.6.1 Selection of the sample

All of the facilitators involved with delivery of *Mate-Tricks* throughout the Cohort 3 roll-out were interviewed. A total of 8 facilitators were working to deliver *Mate-Tricks* in 7 teams. Two of the facilitators were deemed 'core workers' as they were employed full time by the service provider to work solely on the *Mate-Tricks* programme. There are 3 core *Mate-Tricks* staff: a Senior Youth Officer, who delivered the programme in one site, and 2 Project Workers who each delivered the programme in three sites. The remaining 6 youth workers co-facilitated the *Mate-Tricks* programme across the sites with the 'core workers'. These co-facilitators were youth workers who worked full time in the local community in the same area as the school. In other words, each *Mate-Tricks* group was facilitated by a 'core worker' and a youth worker from a local community centre. As a result, 8 facilitators were interviewed.

In total, 16 people were interviewed: 8 facilitators, 4 principals, one service provider and 3 members of CDI staff. In addition to this, approximately 12 parents and 11 children were involved in the focus groups. Focus groups were carried out with 2 groups of children and 2 groups of parents. These were first selected on the basis of their availability and the different characteristics of their sites and starting times. Availability depended on access to the children and their parents during the same session to minimise disruption and to ensure the least possible interruption to delivery time. This was organised in conjunction with the facilitators and the service provider staff.

Where facilitators, principals, service providers or CDI staff are quoted, their words have been taken from interview transcripts; similarly, quotes from children or parents have been taken from their focus group interviews. Interviews were conducted in May 2011.

Site observations were conducted for a full session at all 7 sites between October 2010 and May 2011. In other words, 7 observations were conducted. It was decided that all facilitators should be interviewed and all 7 sites should be observed to give as detailed and accurate a picture as possible of delivery at each site. Also, based on previous process evaluation findings, it was imperative that the comparative views of those working on and off school sites were taken into account.

The Client Satisfaction Survey was carried out by questionnaire with all children in the intervention group in all 7 sites (n=73 children for Cohort 2; n=71 children for Cohort 3). The questionnaire was administered during the school day, at a suitable time agreed by each school. Initial analysis of all relevant documentation for Cohorts 1 and 2 was also carried out.

It is important to note that children and parents from School H were accessed through the service provider because the school withdrew from the evaluation from the outset, despite several attempts by CDI to get buy-in from that school, with support from the service provider (*see Section 3.3.2 for further information*). Nevertheless, the facilitators, children and parents from School H were included in the process evaluation. Site observations were also conducted for children from this school because the service provider managed and hosted the provision.

3.6.2 Interviews and focus groups

The focus of this part of the evaluation was to gather in-depth data to complement the RCT and the statistical analysis of the effectiveness of the programmes, and was used to assist in the interpretation of the results from the RCT.

Interviews and focus groups were digitally recorded (with the interviewees' consent) and fully transcribed. The transcribed interview and focus group text files were uploaded to the MAXQDA qualitative data analysis software. The transcripts were then analysed following a thorough process of reading, categorising, testing and refining, which was repeated by the researcher until all emerging themes were compared against all the participants' responses. The same process has previously been labelled as 'recursive comparative analysis' (Cooper and McIntyre, 1993) and thematic/content analysis (Kvale, 1996).[4] The themes were collated and listed in order of the most frequently mentioned aspects. It is important to note that the findings presented in this report, for the process evaluation element of the overall evaluation, are based on the in-depth interviews and focus groups conducted during Cohort 3 and have built upon previous interview and focus group schedules/findings from previous cohorts and related to the final outcome measures from the RCT. The interviews were conducted by the same researcher.

3.6.3 Observational data

An observation schedule was drawn up and agreed with CDI. This schedule was based on earlier observations conducted during the Cohort 1 roll-out and in order to assess fidelity it was designed in conjunction with the content of the manual. The observations were conducted by the same researcher. The observational data were analysed in a similar way to the interview and focus group data, with a thorough process of reading, categorising, testing and refining, which was repeated by the researcher until all emerging themes were compared against all the observations and participants' responses in the interviews.

3.6.4 Client satisfaction

In consultation with CDI, it was decided that the originally proposed mid-term tests on the outcome measures would not be carried out. In relation to Cohort 1, this was due to the very short time between completion of pre-tests (November) and the proposed month of mid-term testing (February). The evaluation team and CDI subsequently decided to drop mid-term testing completely because there was concern about overburdening children and schools with further testing. Instead, it was decided to conduct a short Client Satisfaction Survey with the children in the intervention group to enhance the process evaluation. This survey was conducted during February-March 2010 for Cohort 2 and in February-March 2011 for Cohort 3.

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[4] For more information on this analysis approach, see the studies by Leitch *et al* (2006), Miller *et al* (2009), Odena (2001, 2007 and 2009) and Odena and Welch (2007 and 2009).

The use of client satisfaction measures is considered good practice in the health services. There were a wide range of measures that could have been adapted and used in the context of an after-school programme. The measures used were identified using a comprehensive list of factors: age- and ability-appropriate, freely available to use and easy to administer.

Following a pilot study, an adapted version of the 'Client Satisfaction Questionnaire' (CSQ-8) (Larsen *et al*, 1979) was identified as suitable for use with young children. This scale provided general information on whether the children were satisfied with the *Mate-Tricks* tasks. Given that *Mate-Tricks* is mainly delivered in a classroom environment using various 'teaching' approaches, the evaluation team agreed that the children's perceptions of the *Mate-Tricks* learning environment and session behaviour should be included. As a result of the pilot study, the 'My Class Inventory' scale was identified (Fisher and Fraser, 1981) and adapted for this purpose. Finally, given the emphasis placed on the impact of the teacher–youth worker–child relationship, a 'Facilitator Disposition Checklist' (O'Hare *et al*, 2010) was included. This offered the children an opportunity to express their viewpoints on the disposition of their facilitator. In line with ethical considerations, all facilitators were asked for their informed consent for the inclusion of the checklist in the questionnaires conducted with their respective groups. All facilitators gave written consent for the checklist to be included. Therefore, the Client Satisfaction Survey for this study focused on children's viewpoints on task ('Client Satisfaction Questionnaire'), learning environment/classroom behaviour ('My Class Inventory') and facilitator dispositions ('Facilitator Checklist').

The client satisfaction data were analysed in accordance with the scales used in the questionnaire (percentage of positive responses and mean scores) and compared with respect to the delivery sites. Since child satisfaction information was quantitative, it has been integrated into the exploratory analysis in the findings *(see Chapter 4, Section 4.3*). This provided additional variables for inclusion in the regression models, thus enabling the research team to identify if children's satisfaction with *Mate-Tricks* tasks, session behaviour and facilitator disposition were significant predictors of any of the programme effects. This is a valuable exercise because it includes the child's voice and their participation in the analysis of programme effects, which would be supportive of Article 12 of the United Nations Convention on the Rights of the Child and the Irish National Children's Strategy (Department of Health and Children, 2000).

3.6.5 Analysis of documentation

The documents included in the analysis were: the minutes of the Communities of Practice facilitators' monthly meetings, service provider meetings and progress meetings. These documents were analysed in relation to a 'process evaluation template' which was developed by the National University of Ireland, Galway, to support the integration of process elements from service evaluations into the overall process evaluation of CDI being conducted by that institution and found suitable for the purposes here. Under each heading in the template, there was a list of the general types of questions which the process evaluation team were interested in, alongside the type of data required. The 'meaning' of each theme and domain was also outlined. As part of the process evaluation for *Mate-Tricks*, all of the information from the minutes and observation notes were analysed. Every phrase from the minutes and observation notes were recorded under the themes and domains. A series of subheadings within each theme and domain was also used based on the 'meanings' and/or general types of questions given in the 'process evaluation template'. In other words, information pertinent to each theme and domain was drawn directly from the documents and summarised under each heading.

3.7 Ethics

A statement of ethics was approved by the Research Ethics Committee of the School of Education at Queen's University Belfast, ensuring that the study complied with the ethical standards set out by the American Education Research Association and the British Educational Research Association (BERA, 2004). It covered issues relating to consent, privacy, confidentiality and data storage, the well-being and safety of participants, and the intellectual property rights of participants, as well as the wider ethical issues relating to research with children. All fieldworkers and project staff were police-checked prior to engaging in the evaluation.

All interviewees were given anonymity assurances and it was explained in the preamble at the start of interviews or focus groups that no names of individuals would be identified in the final report. Where names have been provided in direct quotes from transcript material, these have been replaced with pseudonyms.

For Cohorts 2 and 3, an additional ethics application was submitted and approved by the Research Ethics Committee of the School of Education at Queen's University Belfast for the 'Facilitator Checklist' section on the Client Satisfaction Questionnaire. This section is potentially sensitive since children are asked to 'rate' the dispositions of their facilitators and was additional to what was proposed in the initial ethics application. All facilitators were asked for their informed consent for the inclusion of the checklist in the questionnaires conducted with their respective groups. All facilitators gave written consent for the checklist to be included.

3.8 Challenges and limitations

Since School H elected not to be involved with the evaluation of *Mate-Tricks* from the beginning of Cohort 1, CDI had to take an alternative approach to recruiting children in the area served by this school. CDI advertised the programme within the community and approached parents directly about potentially involving their children in the *Mate-Tricks* programme and evaluation. As a result of this, there were a few ongoing challenges and limitations. Firstly, it was difficult to access children from this school in order to complete testing. It is important to note that due to the size of the school, there were more allocated places for children from School H than any of the other schools (30 places as opposed to 15). Therefore, a lower response rate in this school had a greater impact on the overall response rate, in comparison to other schools. Secondly, it was difficult to access data from School H, especially in relation to school attendance records. There were no issues with collecting attendance records with Cohort 3 – this was because the processes were well established and schools knew what to expect. Thirdly, there was a timetable difference for sessions with children from School H, whereby the programme started in the evening, with a time lapse of two hours between school and the start of the programme. This may account for the poorer attendance rate at the School H sessions, in comparison with other schools.

A similar picture emerged for School I. There were also issues engaging with this school. At the beginning, the school highlighted an issue with parents who said that the school had implemented and made decisions about other programmes without consulting them. Therefore, School I requested that the sessions be held later in the evening so that there was more time between school ending and the programme starting, and it would be seen as totally separate from school. Also, *Mate-Tricks* was not delivered at the school site. As a result, there was both a physical difference and a time difference for School I, which may have contributed to the lower attendance rate for children here.

Generally, the research team and CDI communicated the research process well within the community and 'buy-in' to the process was high from the start, increasing as relationships and processes became established. However, as expected, a RCT design will still unsettle some members of the community. For example, some parents were very disappointed that their child had not been selected or did not understand why they had to complete questionnaires if their children were not attending *Mate-Tricks*. This may have led to an increase in non-parental responses to the evaluation. Some parents

assumed that if they withdrew their (intervention) child from the programme, then the child was automatically withdrawn from the evaluation. The research team put a new protocol in place for following up intervention children who withdrew for Cohort 3 by calling parents to ask if they would like their child to continue with the evaluation. Some teachers felt that the random allocation resulted in some of the 'less needy' children being offered places and were concerned about the split between classes. As indicated, communication issues became less prevalent with Cohort 3 as awareness of the research and its purpose grew in the community.

The number of children leaving their schools contributed to the majority of attrition. The issue of children leaving their schools is further compounded by higher than average non-attendance in early September. The knock-on effects, in terms of the evaluation of *Mate-Tricks*, includes attrition in children's testing and teacher responses, as well as non-responses from parents. In an attempt to address this issue, the research team called schools to personally 'follow up' whether or not children had actually left the school and to check the addresses in the records.

Chapter 4: Findings

Mate-tricks

This chapter begins with a description and breakdown of the study sample, before reporting the findings in relation to the outcomes described in Chapter 3. Full details of each of the statistical models used in the analysis are provided in Appendix 1.

4.1 Sample characteristics

Table 4.1 summarises the main characteristics of the sample and is broken down by intervention and control groups in relation to gender, Special Educational Need (SEN), ethnicity and cohort.

Table 4.1: Breakdown of the sample, by gender, Special Educational Need, ethnicity and cohort

	Intervention group		Control group	
	N	%	N	%
Gender				
Boys	163	53.6	161	56.5
Girls	141	46.4	124	43.5
Total	**304**	**100.0**	**285**	**100.0**
Special Educational Need				
Yes	20	13.0	28	17.8
No	126	81.8	123	78.3
Don't know	8	5.2	6	3.8
Total	**154**	**100.0**	**157**	**100.0**
Cohort				
Cohort 1	102	33.6	87	30.5
Cohort 2	101	33.2	100	35.1
Cohort 3	101	33.2	98	34.4
Total	**304**	**100.0**	**285**	**100.0**

4.2 Main analysis

The analysis was conducted using multiple linear regression. As children were randomised at the individual level, it was not necessary to take account of clustering effects through multi-level modelling. Full details of the models are provided in Appendix 1. As can be seen, by including the children's pre-test scores in the model, the analysis controls for any differences at pre-test between the children that attended *Mate-Tricks* and the control group. Table 4.2 highlights the **main primary effects**, reporting on the adjusted post-test scores, the effect size[5] difference between the control and intervention groups on each of the primary outcomes, and whether the differences are statistically significant (i.e. $p<0.05$). Statistically significant effects are indicated in **bold**.

[5] The effect sizes presented have been converted to Cohen's *d* based on the standardised beta coefficients of the regression models.

Table 4.2: Summary of Main Primary Effects

Outcome	Adjusted post-test scores* (with standard deviations)		Effect size *(d)* [95% confidence interval]	Significance
	Control	Intervention		
Anti-Social Behaviour Child reported from Child Behaviour Checklist	1.64 (0.54)	1.54 (0.53)	0.25 [+0.032, +0.47]	p=0.135
Anti-Social Behaviour Child reported from Pro-Social Behaviour Questionnaire	1.66 (0.87)	1.47 (0.76)	**0.24** [+0.04, +0.43]	**p=0.036**
Anti-Social Behaviour Parent reported from Child Behaviour Checklist	1.03 (0.81)	1.08 (0.63)	-0.10 [-0.40, +0.21]	p=0.749
Anti-Social Behaviour Teacher reported from Child Behaviour Checklist	0.39 (0.72)	0.37 (0.55)	0.03 [-0.18, +0.24]	p=0.727
Pro-Social Behaviour Child reported from Pro-Social Behaviour Questionnaire	4.06 (1.07)	4.08 (1.00)	-0.02 [-0.21, +0.17]	p=0.866
Pro-Social Behaviour Parent reported from Pro-Social Behaviour Questionnaire	2.21 (0.49)	2.23 (0.46)	-0.04 [-0.33, +0.26]	p=0.825

* Controlling for pre-test score.

In terms of social behaviour outcomes, Table 4.2 shows those children who participated in *Mate-Tricks* reported significantly higher anti-social behaviour when completing the Pro-Social Behaviour Questionnaire (effect size *d*=+0.24). To make the effect size easier to interpret, it can accurately be translated into an average percentile gain. This shows that, on average, children who attended *Mate-Tricks* had a 9 percentile point increase in their anti-social behaviour. No evidence was found of a significant difference between the groups in relation to any of the other social behaviour outcome measures. However, there was a consistent pattern of children reporting increased anti-social behaviour and decreased pro-social behaviour. Parents and teachers reported no significant changes, but the pattern of direction largely followed that of the children.

Looking more closely at the mean gain scores on anti-social behaviour, it can be seen that the control group reported a small overall improvement in behavioural outcomes over the test period, while the intervention group reported a small decline. This would suggest that the control group are receiving services that improved their collective behaviour over the test period. Unfortunately, it would also indicate that the intervention group is not simply showing less improvement than the control group, but the programme may also be inhibiting improvement within the intervention group.

In addition to the main primary effects, which focused on the children's social behaviour, a number of **secondary outcomes** were specified. Table 4.3 presents these results, which indicate one additional significant effect for the children who attended *Mate-Tricks* – an increase in child-reported authoritarian parenting (*d*=+0.31), indicated in **bold**. Once again, this can be converted into average percentile gains or reductions for those who attended *Mate-Tricks*. This shows an increase of 12 percentile points in child-reported authoritarian parenting.

Table 4.3: Summary of Main Secondary Effects

Outcome	Adjusted post-test means* (with standard deviations)		Effect size *(d)* [95% confidence interval]	Significance
	Control	Intervention		
Child-reported Victimisation	2.37 (1.24)	2.45 (1.18)	-0.07 [-0.26, +0.13]	p=0.507
Child-reported Conflict tactics	8.46 (3.31)	7.79 (3.17)	0.21 [+0.01, +0.41]	p=0.054
Child Club attendance	2.19 (1.64)	2.02 (1.74)	0.10 [-0.10, +0.29]	p=0.342
Child-reported Friendships	3.26 (1.13)	3.20 (1.00)	0.10 [-0.10, +0.29]	p=0.581
Child-reported Relationship with Mother	3.91 (0.84)	3.73 (0.95)	0.19 [-0.02, +0.40]	p=0.053
Child-reported Relationship with Father	3.63 (1.02)	3.44 (1.08)	0.18 [-0.04, +0.40]	p=0.099
Child-reported Trait emotional intelligence	3.64 (0.48)	3.68 (0.48)	-0.06 [-0.25, +0.13]	p=0.130
Child-reported Liberal parenting	2.22 (0.68)	2.04 (0.70)	0.26 [+0.03, +0.49]	p=0.053
Child-reported Supportive parenting	4.18 (0.84)	4.13 (0.95)	0.05 [-0.16, +0.26]	p=0.607
Child-reported Authoritarian parenting	2.76 (1.07)	2.45 (0.96)	**0.31** [+0.10, +0.51]	**p=0.004**
Parent-reported Positive parenting	3.27 (0.55)	3.28 (0.55)	-0.04 [-0.31, +0.24]	p=0.855
Parent-reported Inconsistent punishment	1.56 (0.53)	1.50 (0.62)	0.11 [-0.18, +0.39]	p=0.517
Teacher ratings of ADHD behaviours	0.75 (0.78)	0.75 (0.75)	0.00 [-0.20, +0.21]	p=0.972
Teacher-reported Trait emotional intelligence	6.51 (1.98)	6.68 (1.89)	-0.09 [-0.29, +0.11]	p=0.232
Attendance at school	90.67 (12.09)	90.89 (10.73)	-0.02 [-0.21, +0.17]	p=0.845

* Controlling for pre-test score, with exception of school attendance which was only collected at post-test.

4.3 Exploratory analysis

Pre-specified exploratory analyses were undertaken to calculate whether other variables influenced any of the outcomes identified in the main effects section. The variables considered were:

- gender;
- having participating in different cohorts (i.e. Cohort 1, 2 or 3);
- a child having a Special Educational Need;
- family affluence/poverty;
- the number of sessions attended by the child;
- the number of sessions attended by the child's parent or guardian;
- child satisfaction ratings.

Only exploratory variables having a significant influence on programme effects are discussed in detail in the following section. For those variables where there is no significant influence, there is no evidence and thus, by definition, nothing to report/discuss. Full analyses of all the variables on all effects are provided in Appendix 1.

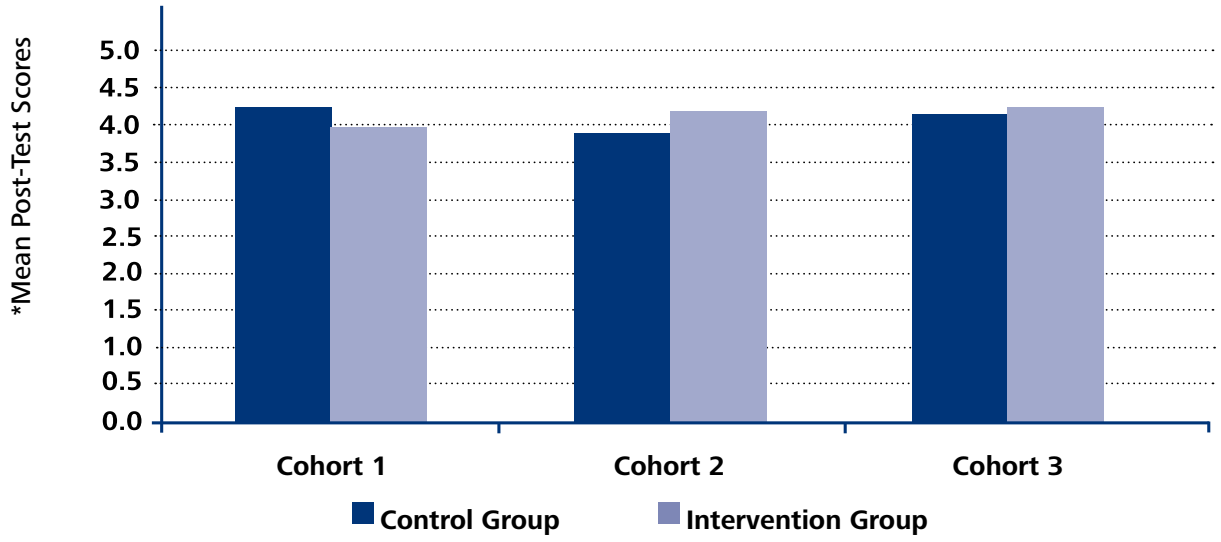
4.3.1 Gender

No evidence was found of any influence of gender in relation to the programme effects.

4.3.2 Cohort

As outlined in the methodology *(see Chapter 3)*, there were three cohorts involved in the study. Investigating if the programme had different effects, for the different cohorts, only one significant effect was found, which was in relation to 'supportive parenting' in Cohort 2 children (p=0.009). This means that the intervention had an improved effect on supportive parenting in Cohort 2 compared to Cohort 1, which may reflect the changes in the programme between Cohort 1 and Cohort 2. The overall picture of cohort on this variable is shown in Figure 4.1.

Figure 4.1: Effects of *Mate-Tricks* on children's mean post-test reports of supportive parenting, by cohort

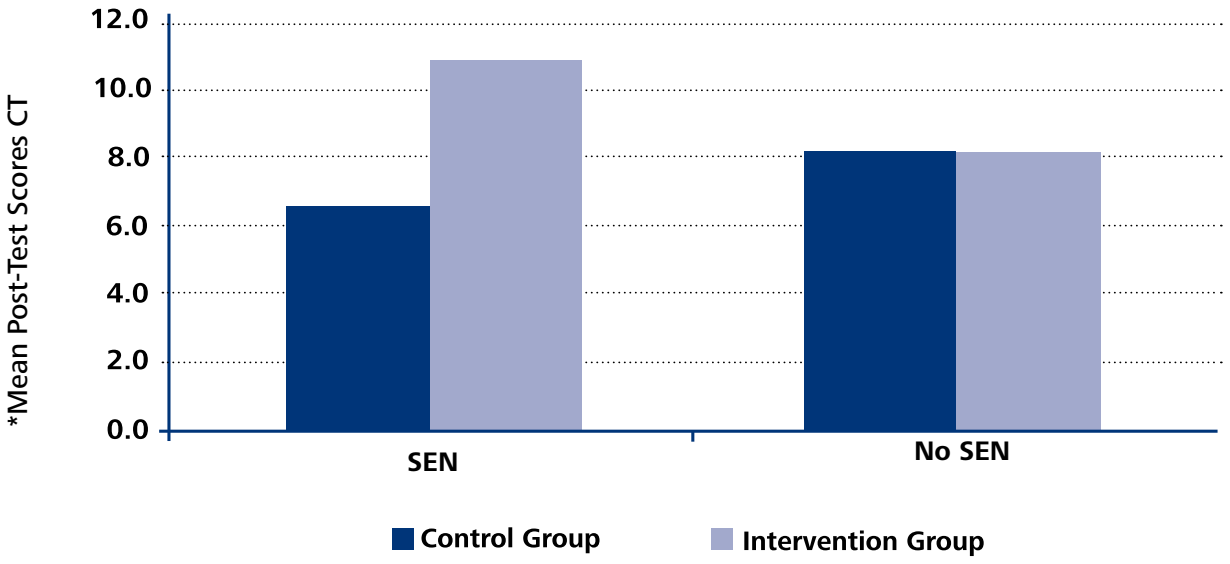


*Controlling for pre-test scores.

4.3.3 Special Educational Need

Teachers reported 8.1% of children as having been assessed with a Special Education Need. There was a significant influence of special education needs on one outcome 'conflict tactics' (p=+0.002). Children with special educational needs reported a significant increase (mean post-test score = 10.16) compared to children with no special educational needs (mean post-test = 8.12). However, this influence is based on low numbers in the special education needs group (intervention n=8; control n=16). Furthermore, as stated in the methodology, the reliability of this scale is low. Therefore, any interpretation of this finding should be treated with caution. Figure 4.2 illustrates this influence with intervention group children with a special educational need, showing the highest mean adjusted post-test conflict tactics scores.

Figure 4.2: Effects of *Mate-Tricks* on children's mean post-test conflict tactics scores, by Special Educational Need (SEN)



*Controlling for pre-test scores.

4.3.4 Family Affluence/Poverty

Family affluence/poverty was measured by children completing a revised version of the Family Affluence Scale (Kehoe and O'Hare, 2010). No evidence was found of any significant influence of family affluence/poverty in relation to the programme effects. However, one outcome approached significance – 'supportive parenting' was negatively influenced by family affluence/poverty (p=0.54). In essence, the programme encouraged an undesirable reduction in supportive parenting in families of children reporting low levels of affluence, but not to a significant degree.

4.3.5 Child sessions

The children in the intervention group received an average of 23.00 sessions (sd=19.81), which equated to an average of 34.5 hours contact time per child. The minimum number of sessions received was 0 and the maximum was 57. The analysis found that children who attended the programme more often had slightly different outcomes, with an increase in child-reported conflict tactics (p=0.001) and also one adverse result, with an increase in authoritarian parenting (p=0.035).

4.3.6 Parent sessions

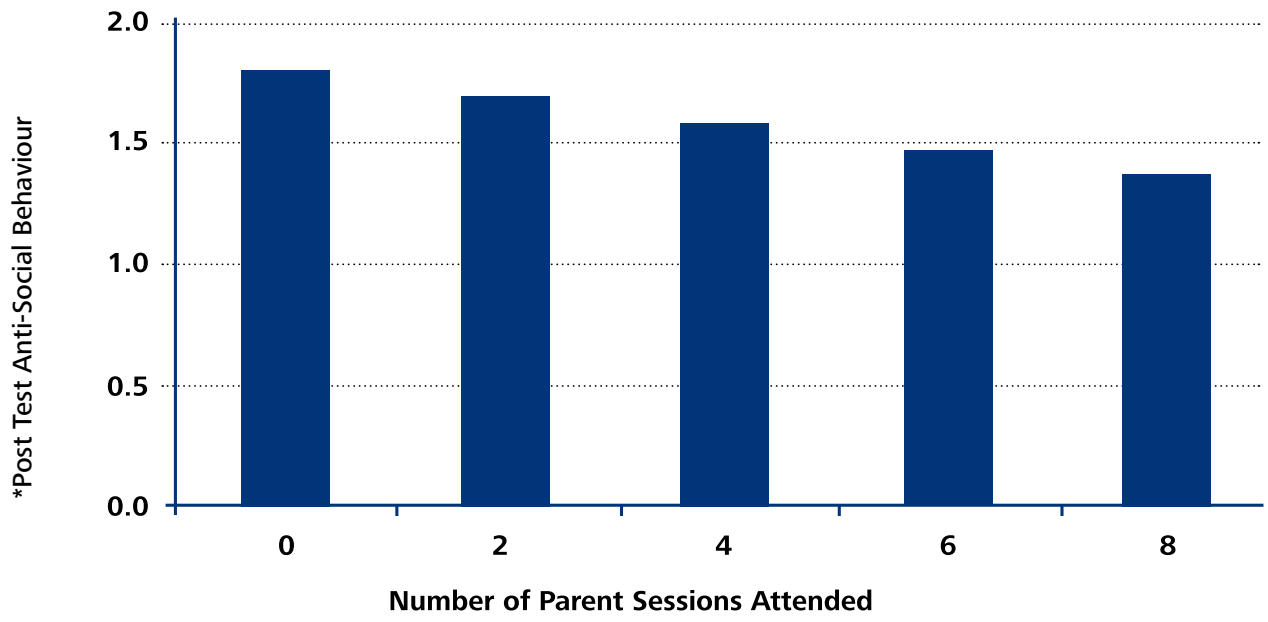
The parents in the intervention group received an average of 2.34 sessions (sd=2.64), which equated to an average of 3.51 hours contact time per parent. The minimum number of sessions received was 0 and the maximum was 9.

This variable was one of the most influential variables. Parents/guardians attending more often had more positive outcomes: an increase in child-reported pro-social behaviour (p=0.002); a reduction in child-reported anti-social behaviour on the PSBQ (p=0.038); a decrease in parent-reported anti-social behaviour on the CBCL (p=0.048); a decrease in teacher-reported ADHD behaviours; an increase in conflict tactics (p<0.001); a reduction in liberal parenting (p=0.017); an increase

in teacher-reported trait emotional intelligence (p=0.009); an increase in child-reported trait emotional intelligence (p=0.014); and an increase in school attendance (p=0.030).

The first of these results (i.e. the influence of parents' attendance on child-reported anti-social behaviour) is represented in Figure 4.3. This shows that with increasing numbers of sessions attended by parents, there was a resultant decrease in post-test anti-social behaviour scores on the PSBQ as reported by the children. Parents attending 4 sessions brings reported anti-social behaviour (mean = 1.59) below the intervention group mean (mean = 1.60).

Figure 4.3: The influence of parents' attendance at *Mate-Tricks* sessions on post-test anti-social behaviour



*Controlling for pre-test scores.

4.3.7 Child satisfaction

Generally, children's satisfaction ratings of *Mate-Tricks* were a substantial source of significant predictions of child outcomes. Child satisfaction with *Mate-Tricks* session behaviour, tasks and facilitator dispositions all had specific influences, each of which is discussed below.

The child's views of general behaviour within the sessions

This variable was constructed from children's views of the behaviour of children in *Mate-Tricks* sessions. Favourable views significantly predicted several desirable outcomes: an increase in child-reported pro-social behaviour (p=0.001); a decrease in child-reported anti-social behaviour on the CBCL (p=0.028); an increase in positive relationships with the child's mother (p=0.027); a decrease in liberal parenting (p=0.020); an increase in teacher-reported trait emotional intelligence (p=0.012); and an increase in child-reported trait emotional intelligence (p=0.021).

The child's satisfaction with *Mate-Tricks* activities

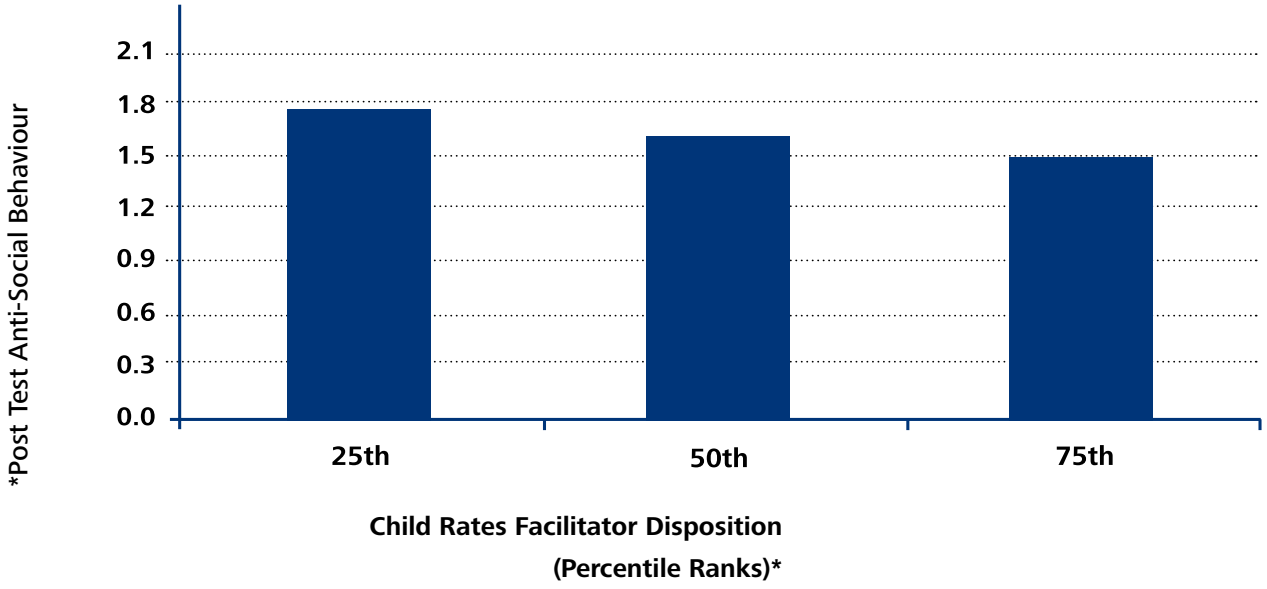
This variable was constructed from children's views on the activities within the *Mate-Tricks* sessions. Greater satisfaction significantly predicted a number of desirable outcomes: an increase in pro-social behaviour ($p<0.001$); a significant increase in conflict tactics ($p=0.020$); an increase in positive relationships with the child's mother ($p<0.001$); an increase in positive relationships with the child's father ($p=0.002$); an increase in child-reported supportive parenting ($p=0.002$); an increase in teacher-reported trait emotional intelligence ($p=0.024$); and an increase in child-reported trait emotional intelligence ($p=0.001$).

The child's assessment of *Mate-Tricks* facilitator dispositions

This variable was constructed from children's ratings of the dispositional characteristics of the facilitators in their sessions. Greater satisfaction significantly predicted a number of desirable outcomes: an increase in pro-social behaviour ($p<0.001$); a reduction in anti-social behaviour ($p=0.003$); an increase in positive relationships with the child's mother ($p=0.003$); an increase in positive relationships with the child's father ($p=0.003$); an increase in child-reported supportive parenting ($p=0.036$); an increase in teacher-reported trait emotional intelligence ($p=0.013$); and an increase in child-reported trait emotional intelligence ($p<0.001$).

Figure 4.4 below shows that the more favourable the child's view of the *Mate-Tricks* facilitators' disposition, the greater the decrease in post-test anti-social behaviour reported by the children. The children's views are divided into three percentile ranks (25, 50 and 75), which represent increasingly favourable opinions. Children whose ratings are in the 50th percentile and 75th percentile have reported anti-social behaviour (mean = 1.59 and 1.48 respectively) below the intervention group mean (mean = 1.60).

Figure 4.4: Adjusted post-test scores of anti-social behaviour predicted by child ratings of facilitator disposition



*Controlling for pre-test scores.

Chapter 5: Process Evaluation

5.1 Introduction

In conjunction with the randomised controlled trial (RCT), a process evaluation was also conducted, which involved the analysis of in-depth interviews and focus groups, site observations and documentation. Given the very detailed nature of the interview and focus group data, coupled with evidence from the in-depth observational data, these will form the main framework of this chapter. The interview and focus group data were rich in terms of the length, depth and level of discussion and the number of interviews conducted across all of those involved in *Mate-Tricks*.

In total, 16 people were interviewed: 8 facilitators, 4 principals, one service provider and 3 members of CDI staff. In addition to this, approximately 12 parents and 11 children were involved in the focus groups. In the following discussion, where facilitators, principals, service providers or CDI staff are quoted, their words have been taken from interview transcripts; similarly, quotes from children or parents have been taken from their respective focus group interviews. The interviews, focus groups and observations also presented a level of saturation (i.e. repetition of issues from previous interviews and previous analysis of documentation) that made it unnecessary to include a detailed analysis of the documentation.

The interview and focus group findings are presented in the following sections in order of the most frequently emerging aspects. For example, the most prevalent area discussed was the impact of the *Mate-Tricks* programme on the children involved (*Section 5.2*). This discussion is followed by the next two most frequently discussed aspects: findings on the manual/programme content (*Section 5.3*) and facilitation of *Mate-Tricks* (*Section 5.4*). The interview and focus group findings related to parental involvement (*Section 5.5*), the impact of CDI's involvement (*Section 5.6*) and the evaluation are then presented, along with the improvements noted by interviewees (*Section 5.7*). The interview and focus group findings are presented with exemplar quotes in an attempt to keep the sections brief; however, further quotes are given under each Section heading in Appendix 2. The final two sections relate to findings from the 7 site observations (*Section 5.8*) and the Client Satisfaction Survey (n=73 children for Cohort 2; n=71 children for Cohort 3) (*Section 5.9*).

It is important to note that the interview and focus group data presented represent the *views and perceptions* of those who were interviewed and have not been extrapolated beyond that in order to prevent assumptions being made from the data.

5.2 Impact on children

When asked about the benefits of *Mate-Tricks* for the children involved, the majority of comments were very positive and focused on improvements in children. There were issues raised around behaviour problems at *Mate-Tricks* and about how suitable the programme is for all children.

5.2.1 Positive impact on children

The improvements noted related to both specific aspects of *Mate-Tricks* sessions (Problem Identification Choices Consequences model[6], coping statements), as well as more general references to being able to speak out and improvements in behaviour and confidence. Almost every facilitator commented on these improvements, but the majority of comments came from the children themselves. The parents involved in the focus groups talked at length about the benefits of *Mate-Tricks* for their children in terms of their pro-social skills, knowledge and abilities. In particular, parents gave specific examples of the changes they have noticed. Children, parents and facilitators also commented on the children's enjoyment of *Mate-Tricks* and their enthusiasm for it and for going to their sessions.

[6] Known as the PICC model, where PI = Problem Identification (What is the problem?), C = Choices (What choices do I have?) and C = Consequences (What might happen?).

"PICCS ... It's Problem Identification, Choices, Consequences and Solutions … It's for solving problems and we did a film."

(Child)

"Yeah, I think they seem to learn how to cope with things. Like my son would be able to say to his brother and sister, 'Mam's busy right now, so why don't you just wait a few minutes?"

(Parent)

"The kids love it and that's the main thing … The kids just love it and they're so enthusiastic about it and they're there before you and so eager to do it."

(Facilitator)

Parents made several references to how improved their child is at school in terms of behaviour and engaging in lessons. Parents noted changes in the children's attitudes to school and that they are more positive about going to school. There were several references to the longer term impact of *Mate-Tricks*, for example, that it has improved behaviour in the longer term and that children take the messages with them beyond their year at *Mate-Tricks*.

"Even in school, the teacher has said this year she's got a lot better, her anger isn't as bad. So she's done really well this year in school, whereas last year, every week I was up at the school. She just lashed out."

(Parent)

"The whole thing, it's really good to see it from start to finish. We have a couple of young people in our groups now and their brothers and sisters would have been in it and it's funny because a couple of the brothers and sisters have come to the family sessions and they've said stuff about Mate-Tricks."

(Facilitator)

5.2.2 Potential challenges to the impact of *Mate-Tricks* on children

A member of the service provider staff, 6 of the facilitators and 2 principals talked about the issue of challenging behaviour at *Mate-Tricks*.

"A lot of it depends on the young people who are in the group. You have kids with very strong behavioural difficulties, so that group needs to be managed differently and the session needs to be broken into sections … So definitely behaviour is a big thing and it does influence the way things are delivered. It influences the way things are planned."

(Service provider)

"With the majority of kids, it's brilliant. But there's always going to be a few kids with the concentration and maybe kids who have certain anger issues and that kind of thing, who would find the bulk of the programme quite hard to sit down and engage with."

(Facilitator)

It is important to note that the majority of references to behavioural problems were followed by references to the fact that these children have progressed during their time in *Mate-Tricks* and that facilitators have learned how to manage their behaviours in better ways (*see Section 5.7*). There were specific references to the 'types' of children that benefit from *Mate-Tricks*. For example, interviewees talked about how it benefits quiet or introverted children, and those with behaviour issues, or that different children respond to different parts of the programme.

Although some respondents were negative about the idea that *Mate-Tricks* can 'only' help certain 'types' of people, it is important to note that the majority of respondents who spoke about this were positive and highlighted that it helps these groups of children. The variety of 'types' of children mentioned may be indicative of different interviewees noticing or being focused on a range of benefits for different children.

5.3 Manual/programme content and approach

The majority of references to the *Mate-Tricks* manual/programme outlined by interviewees were positive. Almost all of the favourable comments related to the content of the programme and the approaches used to deliver it, as well as about the planning and reflection processes. The main problematic issues centred around the fact that the manual was incomplete in the first year and still evolving in the second year; fidelity to or usability of some manual activities; and variation in facilitation approaches.

5.3.1 Positives of the manual/programme content and approaches

Respondents who had different levels of interaction with *Mate-Tricks* were mostly positive about the overall structure of the *Mate-Tricks* manual.

> *"I think the manual is very workable."*
>
> (Service provider)

> *"In general I find that the structure of the manual works very well, that it progresses along nicely."*
>
> (Facilitator)

Interviewees were very optimistic about specific activities. The most frequently mentioned activities were 'snack time', rewards, role plays, games and goal sheets.

> *"I'll say snack time [works best] … it is that space to delineate between school and group."*
>
> (Service provider)

> *"I'd see the role play aspect as well. I see a lot of the young people who would have been maybe shy in doing the role play at the beginning and coming out of themselves and now I've seen them develop and get involved more. I think once they practise and they're familiar in the group now at this stage."*
>
> (Facilitator)

"They have their goal sheets, the goal sheets they have with their teachers. They do very well in that. With the goal sheets at home when they're off to bed in the evening, they're like 'Did I get it? Did I get it?'. So that was a good incentive, do you know what I mean?"

(Parent)

Interviewees were very positive about a wide variety of approaches used in *Mate-Tricks* sessions, for example, the outings, making a film, use of repetition and extra attention for children. Given that the majority of facilitators had never used a manualised approach before, they were very positive about it. All of the facilitators were encouraged by the current planning and reflection process. They commented on the benefits of having a specified time to plan, reflecting with their co-facilitator and the actual structure of the reflection tool.

"Really good. It's a different way of working to youth workers. We tend to go in with what we understand are the needs and develop out the programme from that, whereas this is a programme that is set out based on not a bunch of needs but this is something that they need in their life, these are the different skills that they need right now that are going to help them further on. So it's giving them the skills before the situations might happen, which is really good."

(Facilitator)

"Fantastic. The new one that was introduced at the start of this year is so clear and so concise – the action plan and the different sections in it."

(Facilitator)

5.3.2 Issues with manual/programme content and approaches

A number of the service provider staff, CDI staff and a few facilitators talked about the fact that the manual was not complete in the first year and still evolving in the second year. There were also issues with some of initial manual content, as well as the need to develop supplementary resources/materials.

"In relation to the whole programme, because again we were selling a programme that we hadn't even seen the manual for and there was no manual. We hadn't done any training at this stage, we hadn't done any training in either Strengthening Families or Coping Power, so you're asking people to trust, you're selling something that you don't know and you're trusting that what you've been told is the truth and you're asking people to trust your word."

(Service provider)

"In my opinion, if people were to come to it next year and were not involved with our list of resources and the rest of it, I think it's a huge body of work the first year, I really do. I think that we were lucky enough and we have two full folders of resources that we have done … we all photocopied them and blew them up into A3 and laminated them, so that's our stock."

(Service provider)

Throughout the interviews, there were frequent specific references to fidelity in relation to instances where the manual has been adapted or 'necessary' changes had been made to sessions. One member of the service provider staff and the facilitators talked about changes to activities, the structure of delivery, adaptations for certain groups and having different interpretations of the manual. There were several comments about some changes to the manual content over the three years of implementation.

> *"It didn't need many changes, just little tweaks like adding in games and activities rather than reading out a big spiel about feelings and emotions so to make a game out of it, just to make it more user-friendly for 10-year-olds."*
>
> (Facilitator)

> *"I think the PICC Model was a perfect example. People were still debating how to do it and how to get it across. I think it's a very simple example of a big challenge like fidelity."*
>
> (Service provider)

> *"The last two years we got temporary manuals and we got them before September and then Christmas, and they changed all the time. But this year we have our solid manual."*
>
> (Facilitator)

Approaches to facilitation also differed between sites. Almost every facilitator, the service provider and the *Mate-Tricks* trainer talked about several different approaches to co-facilitation, to include:

- one facilitator being assigned to one or two children, while the other one leads;
- one facilitator managing behaviour, while the other one leads;
- alternate leading of entire sessions;
- alternate leading of activities within sessions;
- 'equal facilitation' – both facilitators lead and 'feed in' when the other one is talking.

One facilitator talked about three approaches to co-facilitation in the three groups she was involved in. This was an attempt to respond to differing needs in different groups. Content was not changed, but if, for example, a child in one group had poor literacy it would be necessary to make some changes to allow him or her participate in a particular activity; or it may be necessary for one facilitator to sit with the child for some parts of the session. This is an important example of the challenges in retaining fidelity in manualised interventions.

5.4 Facilitation of *Mate-Tricks*

Aside from the differences in approaches to co-facilitation, interviewees talked about various other aspects of facilitation. There were an almost equal proportion of positive and negative responses.

5.4.1 Positive elements: Training, co-facilitation, approach, enjoyment

The majority of facilitators, a member of the service provider staff and CDI staff were very complimentary about the ongoing training throughout the three years to include support and training from the Strengthening Families Program and the Coping Power developers in America. The majority of facilitators commented on the benefits of a co-facilitation approach and the positive relationship between the co-facilitators.

"So the first year a lot of work would have been done around managing their behaviour, appropriate responses to the behaviour of a 9- and 10-year-old, and then appropriate consequences for a 9- and 10-year-old. That's where a lot of the strike system and things from Coping Power came in, when we started to make sense of working with that age."

(Service provider)

"The training around the manual has been great and I think it's phenomenal that we get it from the developers."

(Facilitator)

"And it's such a big group as well, especially if you have challenging young people, so one person can take them aside and the session will still run as normal. It couldn't work without having two people unless it was a much smaller group, so if it was maybe 7 or 8 kids."

(Facilitator)

A principal, several parents and children in both focus groups talked about the facilitators' positive approach to their work and how they have enjoyed working with the facilitators.

"The tutors have total control over the whole thing. I don't interfere or get involved too much. It runs very well … The tutors who have been here have been very professional and very committed to the programme."

(Principal)

"I like Mate-Tricks because it helps me and I like our leaders because they listen to us and our problems."

(Child)

5.4.2 Negative elements

The majority of negative responses related to the youth workers' lack of experience in terms of using an evolving manual over the first two years, initially working with children of this age and behaviour management of children with acute needs.

"Definitely teething problems at the start, but nothing to do with the facilitators, just getting familiar with the manual. And then, I suppose, because the co-facilitators don't work to manualised programmes, they do whatever there is a demand for at the time."

(Facilitator)

"Very different actually, very different [age group]. It's a lot harder to reason with a 9-year-old who's lying on the floor than it is a 13-, 14-, 15-year-old."

(Facilitator)

"I know when Mate-Tricks is on. I hear children running down the corridor and doors slamming. They're not as well behaved in Mate-Tricks as they are in school … I wouldn't say it's the programme. I'd say it's just an issue of behaviour management."

(Principal)

It is important to note that only two principals talked about behaviour problems and the facilitators themselves acknowledged the difficulties and differences of working with younger children. Most noted that they have improved over time and have enjoyed learning to work with this age group.

5.5 Parental involvement in *Mate-Tricks*

Parents, a member of the service provider staff and facilitators talked about the very thorough methods employed to communicate with parents. In the focus groups, parents reported that they felt informed about what was going on in the child sessions and found the parent sessions useful and liked the flexibility in terms of the session times.

"I think we've been very thorough in terms of the normal approach … parents get a calendar for the term so all those dates are highlighted, the kids' dates, the parents' sessions, the family sessions. At the start, when the parents are signing up to it, they're told there's a parent component to it. They get the calendar, they get a letter about three or four days before the session is on, they get a phone call to say the session is on a Monday, they get a phone call probably on the Friday to check they got the letter, then they would get a text on the Monday morning."

(Service provider)

"Just well informed. At the end of it, there's no questions because everything has been well explained. Everything you get to bring home – what they've done and how they learn. It is good."

(Parent)

"I think it's flexible enough. If you can't make one session, there's one in the morning and in the evening."

(Parent)

Although there was a high volume of communication with parents and numerous strategies employed, the main issue reported was poor attendance at parent sessions. This was the most frequently mentioned aspect of parental involvement with the *Mate-Tricks* programme.

> *"The parents who engage tend to be very interested. I think the feedback from the schools from a couple of home/school teachers I would talk to would be they would be the same parents who would engage with the schools. Maybe across the board we might get 30% of parents – that's just a guess based on the report I was doing, I was looking at parent sessions between January and April, so for some of them it's higher and for some of them it's lower. There does tend to be a tail-off towards the end of the year. You'll have some parents who'll come down with just a letter and other parents who just won't turn up or they'll tell you they'll turn up and won't."*
>
> (Service provider)

Generally, parent attendance would also appear to be an ongoing issue for schools and the service providers in the area. During the interviews, the *Mate-Tricks* service providers and CDI staff provided a number of examples of good practice and strategies to improve parental engagement, for example, increasing the overall number of sessions to facilitate group belonging; providing repeat or 'catch up' sessions; parent sessions taking place closer together (over a period of 6 weeks instead of being split up over the academic year); house visits that kept parents up-to-date on the sessions; communication by text and telephone; reorganisation of the starting time of parent sessions; amalgamation of groups in order to offer two alternate session times; and general positive communication with parents who pick their children up from *Mate-Tricks*.

In essence, the parent element needed investment. The facilitators themselves acknowledged this and described the extra efforts they went to in order to engage parents. Improving parental engagement required substantial extra resources and time, and this was something that everyone was committed to improving upon.

5.6 Impact of CDI's involvement

The majority of references to CDI were complimentary and, in particular, interviewees talked about the positive support and effective communication with CDI. Participants were also asked about the Communities of Practice (COP) Meetings. The objectives of the *Mate-Tricks* Communities of Practice are set out in the *Mate-Tricks* manual (CDI, 2010, pp. 59-60) as follows:

- to support fidelity to the *Mate-Tricks* manual;
- to provide technical assistance in programme delivery;
- to offer a space for reflection, consideration and shared learning;
- to identify and respond to training and support needs;
- to collectively identify solutions to issues impacting on service delivery;
- to act as a conduit between service providers, CDI team and the evaluation team;
- to inform the development of best practice guidelines for after-school services.

The references to the COPs were mainly positive, with interviewees talking about the approaches used in the sessions and the content of them.

> *"I think they've [CDI] coped well. There was a lot of layers of review and reflection and reflective tools, planning review sessions with myself or with X in terms of support supervision."*
>
> (Service provider)

> *"No, I think it was managed very well and works effectively. The lines of communication are very clear. It was done very professionally."*
>
> (Facilitator)

> *"It's nice to have the support and when you're talking about particular sessions to know that other facilitators are having similar stresses or something has gone as well as you've felt it did."*
>
> (Facilitator)

In terms of content, interviewees were supportive of a number of elements, including giving feedback on manual content; the fact that there is an agenda; and that aspects of the programme are clarified in these meetings. In terms of issues with COPs, most of these references centred on earlier meetings (e.g. in the first year) and the majority of interviewees clarified that COPs have improved: for example, they are less theoretical and practical, reflection is better and it is better that they are co-facilitated by CDI and the service provider staff *(see Section 5.7 for more details)*.

In addition, quarterly review meetings with the service provider and CDI were noted as useful opportunities for planning and sharing of information.

> *"The quarterly meetings are necessary and I suppose … allow you to do the maths of attendance and to be able to see trends. So they're useful. They tend to run quite smoothly. Normally I deal with X in CDI so I don't really have any issues in terms of communication."*
>
> (Service provider)

5.7 Improvements with time

The most frequently mentioned improvements were related to the facilitators' skills, abilities, delivery and attitudes towards the *Mate-Tricks* programme. For example, interviewees talked about improvements in co-facilitation, knowledge of the manual and attitudes towards the manual. There were several references to how the manual content had improved. An improvement in the general attitudes of schools towards the *Mate-Tricks* programme was also mentioned. Several interviewees talked about how there was an initial scepticism, but that schools have become much more positive now.

"And then I suppose because the co-facilitators don't work to manualised programmes, they do whatever there is a demand for at the time. It's been so nice to see how much people have embraced it."

(Facilitator)

"There was a time there when no matter what happened, the manual was blamed for it. But now I think there's more of a proactive attitude. They see it as more of a tool. There's more ownership over it and understanding of the process of it."

(CDI staff)

"School J, we have a very good relationship with at this stage. Part of that is to do with the fact that the facilitator was well established within the community beforehand and she was known in the school. They were quite sceptical at the start, but they're very positive altogether."

(Service provider)

There were several references to improvements in the Communities of Practice (COP) Meetings. The service provider and several facilitators commented on how they are more useful and CDI staff also talked about the process of improving COPs and, as part of these, the reflection process.

"I think the COPs are working an awful lot better. I think staff are much more engaged with them, they're much more practical … They were definitely too theoretical at the start, whereas at this stage they're really about the skin and bones of the programme."

(Service provider)

"I guess we never had minutes or agendas for COPs, which was ridiculous because in any other meetings you'd always have them. Now we have them so that's really good … It is much more practical than it used to be … And now they're co-chaired by us, the service provider, so the agenda is done up with CDI and they take turns. Like, at the start CDI were doing the minutes, but it was all with a negative spin. But that's all stopped so now the minutes are done by alternative people."

(Facilitator)

"And then the COPs and really the COPs and the ongoing training. For example, we had our Strengthening Families training and I felt that people needed more support, particularly with the parent sessions. So having to push that training and say I think it's worthwhile for us to do that. I've been trying to put the videoing and the self-reflection in the COPs … I think there's just a different approach to work. I think it's a great way of improving practice and the research says it is and even just giving people confidence in what they're doing … It's very hard because we went back over the processes, particularly reflection … We had meetings just talking about what does it mean and getting training on reflection and the value of it, then everyone contributed to the process so it wasn't like it was something that was given from on high. In terms of change management, all the kind of things that you feel would be important were done. I think maybe … some training on reflective practice. I think, considering all of the things we have done a lot but it was just a bit of a difficult process. The COPs have definitely got better. They're still not where I would want them to be. They could become about complaining about a particular issue and then you were trying to support solutions. I think as it came on, like there are some people with stronger voices and some of those voices were particularly positive and that really helped. I think people are much more open and much more positive and give solutions to things … There is a big push to have them [COPs] very practical. There's a big push to talk about resources, but the COP is meant to be reflecting on practice and processes, so I have to try and balance having some space to talk about resources, but the COP is not the place to design a poster."

(CDI staff)

5.8 Site observations

Detailed site observations were conducted during a full session at all 7 sites where *Mate-Tricks* was being held. The observation schedule involved the observation and collection of information related to the location/space being used for the programme, a breakdown of the overall content in each session (recorded with a breakdown in time allocations and related to the manual) and information on various aspects of teaching, learning and assessment.

5.8.1 Location/space

As part of this observation schedule, information was collected on the location and space available for delivery of the programme. With the exception of School K, all of the groups attended *Mate-Tricks* on an out-of-school site. None of the groups had a dedicated space and the majority did not have space to put up work and were in a constricting space. When asked about the organisation of *Mate-Tricks* and any issues with this, there were very few comments related to the location/space and it did not appear to be a huge issue for those involved with the programme.

5.8.2 Session content *versus* manual outline

For all of the observations, a detailed record of the time spent on each activity was recorded (for example, '2.35-2.50: Snack and news, 2.50-3.00: Recap on last day – teamwork, coping statements'). These observation records were compared to the outline given and the specified times outlined in the *Mate-Tricks* manual. Table 5.1 presents details on the setting-up time and activities that were given extra time, less time or were missed out completely. The information is presented per session and does not represent the frequency of behaviours noted during observations.

As presented in Table 5.1, setting-up time and the time spent on specified manual activities varied between sites. The 'snack/roll call/rules' activity carried out at the beginning of each session was most frequently recorded as taking longer than stated in the manual. This was the case in 6 out of the 7 sessions observed – in 5 of these sessions, this activity overran by 10 minutes. On the other hand, the 'rewards' element and 'opening game' and 'closing game' activities were most frequently allocated less time than stated in the manual and on two occasions were left out completely. In 4 out of the 7 sessions observed, the 'rewards' element was allocated less time or left out. In 3 out of the 7 sessions observed, the 'opening game' was allocated less time and also in 3 out of the 7 sessions observed, the 'closing game' was given less time or left out. It would appear that the opening activities ('snack/roll call/rules', 'opening game') and the closing activities ('rewards', 'closing game') are the most difficult activities to manage with respect to time and need to be monitored and/or addressed in any future implementation of the *Mate-Tricks* programme. On the other hand, given that all of the sites do not have a dedicated space, it is important to note that the set-up time did not exceed 10 minutes in any of the sessions observed. In fact, the researcher noted how well organised the resources brought along to each session were.

Table 5.1: Details of time spent on activities outlined in the *Mate-Tricks* manual

School/ site	Setting-up time	5 mins more	10 mins more	15 mins more	5 mins less	10 mins less	15 mins less	Activities missed out
School H	6 to 10 mins	Snack/ Roll Call			Rewards			
School H & N	up to 5 mins		Snack/ Roll Call	Problem-solving game	Review previous session and Goal sheets Opening game			Fun Rewards
School I & K	up to 5 mins	Closing game			Identification of skills to make friends and access peer group Rewards			
School J	unknown		Snack/ Roll Call/ Rules		Opening game	Closing game		
School K	up to 5 mins		Snack/ Roll Call		Identifying peer pressure activity Rewards Closing game			
School L	6 to 10 mins		Snack/ Roll Call/ Rules MT Secret Rules of Success			Opening game		Closing game
School M	6 to 10 mins		Snack/ Roll Call/ Rules MT Secret Rules of Success		Real-life application of coping statements		Coping statements memory challenge	

5.8.3 Programme delivery, learning and assessment

The observation schedules set out to consider a number of aspects of programme delivery, learning and assessment during *Mate-Tricks* sessions. These can be summarised as positive discipline and ethos; facilitation; using a variety of skills and strategies; effective questioning and discussion; the management of space, time and resources; and evidence of differentiation and assessment. All of these aspects were commented upon for every setting and are summarised below. It should be noted that the information in this section is presented per session and does not represent the frequency of behaviours noted during observations.

In all of the settings, a very obvious focus on positive discipline and creating and maintaining a positive ethos was prevalent. The majority of facilitators worked hard to focus on appropriate discipline and a positive ethos, and the following skills/strategies were observed:

- lots of pre-empting of behaviour;
- positive praise and children were encouraged to praise each other in the same way;
- expectations were clearly set and children were reminded frequently, in a positive way;
- there was an emphasis on fairness – rewards, praise, voting, catching and a focus on good behaviour (some negative behaviour was appropriately ignored);
- facilitators remembered details about the children's lives and other interests/hobbies, and came across as genuinely interested in the children in their group;
- facilitators acted as 'role' models for pro-social behaviour and children were encouraged to take responsibility for their own actions and choices;
- facilitators worked with reluctant children in a positive way; for example, they gave them lots of encouragement, praise, empathy and positive attention;
- facilitators worked hard to motivate and excite with the activities they planned;
- children were encouraged to 'be positive' – for example, when a child reported less positive things in their 'news', the facilitators empathised and one asked 'Is there anything good about that?'.

From the list outlined above, it is obvious that the core of the programme runs through the ethos and entire approach in the sessions observed. The facilitation was balanced in the majority of sites and utilised different types of co-facilitation, which included the five types outlined in Section 5.3.2.

A great variety of skills and strategies were observed across the *Mate-Tricks* sites. For example, explaining, questioning, modelling and demonstrating were observed across all 7 sites. In particular, activities were fully explained and children encouraged to help each other. Effective prompting was observed and many examples shared. Concepts and examples were well modelled by facilitators, with lots of reinforcement throughout sessions as well. Whole group, small group, paired, individual and collaborative work and learning were observed across the sessions. Very often the language was complex, but in the majority of cases this was handled well and examples were used to explain.

As part of the observation, there was a specific focus on questioning and discussion. A checklist was included in the observation schedule for evidence of 'appropriate questions', 'sharing of personal examples', 'did not change the subject', 'key concepts communicated' and 'reinforced student's pro-social behaviour'. All aspects of questioning and discussion were prevalent in 4 out of the 7 sessions observed. 'Sharing of personal examples' was not observed in 2 sites and 'provision of other examples' was not observed in one site. However, this may have been related to the specific session and it is encouraging that almost all types of questioning and discussion were observed in all 7 sessions. In particular, the

discussion sections observed were very in-depth and focused on the task/activity or the concept/feeling being explored. It was obvious that the children learnt a lot from the discussion element since their retention about concepts discussed in previous sessions was very good and proved to be excellent in some sessions.

Time and resources were well managed. There was a lot to cover in some sessions, but facilitators were aware of the time and kept the children motivated whilst moving smoothly between activities. As a result, the sessions did not feel rushed even though there was a lot to cover. In terms of resources, the reward charts were very well used to effectively motivate. There was good use of other basic resources (e.g. cards, a ball, etc). In 4 out of the 7 sites observed, the space was very well used: the facilitators moved the children between a table and other spaces in the room in an effective way, to break sessions up and keep the children's attention, even when space was limited. In 3 out of the 7 sessions observed, the children remained at one table throughout the session – this felt like a long time for the children to be focused in one place given that only one of these sites had very limited space (and the children could not be moved from the table). There was the space and opportunity to complete tasks/games away from the table in the other 2 sites, but this did not happen.

Assessment and differentiation was obvious throughout the observations. In particular, facilitators pre-empted behaviours very well as they closely observed and listened to what the children were saying/doing, often without the children even noticing. They had very good awareness of children's academic capabilities (e.g. literacy and numeracy problems) and the potential issues this may cause during certain activities. For example, they had various strategies in place to deal with this – one-to-one support, use of scribes, re-emphasizing instructions, allowing extra time.

5.9 Client Satisfaction Questionnaire

The initial findings from the Client Satisfaction Survey (Cohorts 2 and 3) are presented below. This survey was conducted among those children involved in the *Mate-Tricks* programme (intervention group) and focused on their viewpoints on task ('Client Satisfaction Questionnaire'), learning environment/classroom behaviour ('My Class Inventory') and facilitator dispositions ('Facilitator Checklist'). Response rates to the survey were 72% (N=73) of the Cohort 2 children and 70% (N=71) of the Cohort 3 children. The missing responses were mainly due to poor attendance at School H sessions since that school was not involved in the evaluation and the survey was conducted after one of the sessions. Factor analysis was conducted on each scale (Client Satisfaction Questionnaire, My Class Inventory and Facilitator Checklist) to check the correlation between the items. Low loading items were removed from the 'My Class Inventory' scale (4 items) and the 'Facilitator Checklist' (3 items).

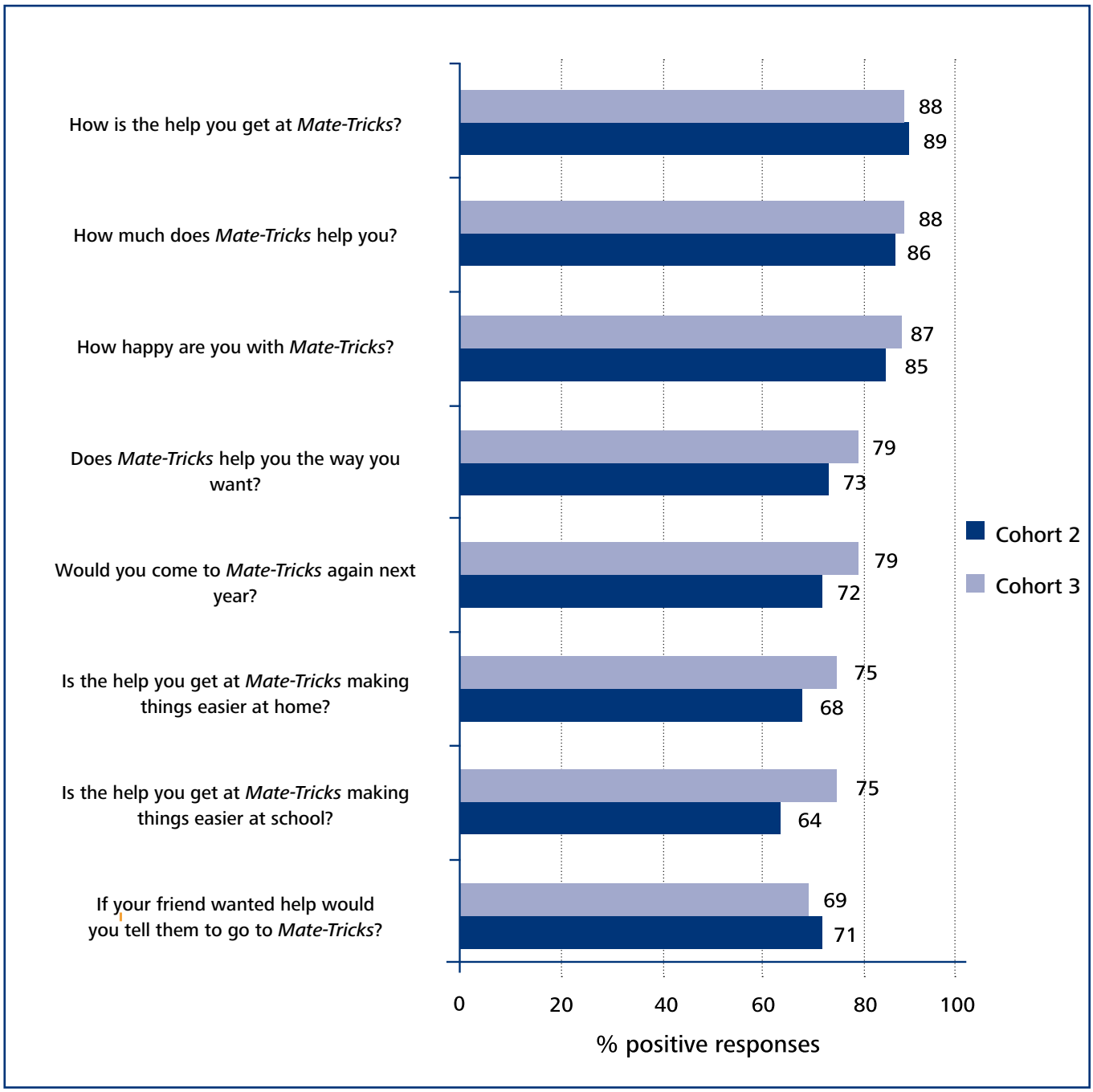
As a measure of the internal consistency of the scales, Cronbach's alpha was calculated for each scale used within the Client Satisfaction Questionnaire. Table 5.2 presents the reliability co-efficient for each of the scales. As can be seen, the reliability of measures is good, with all of the scales having an alpha value of 0.90.

Table 5.2: Reliability of the scales used in the Client Satisfaction Questionnaire

Scale	Reliability co-efficient (Cronbach's alpha)
Client Satisfaction Questionnaire (CSQ-8)	0.90
My Class Inventory	0.90
Facilitator Checklist	0.90

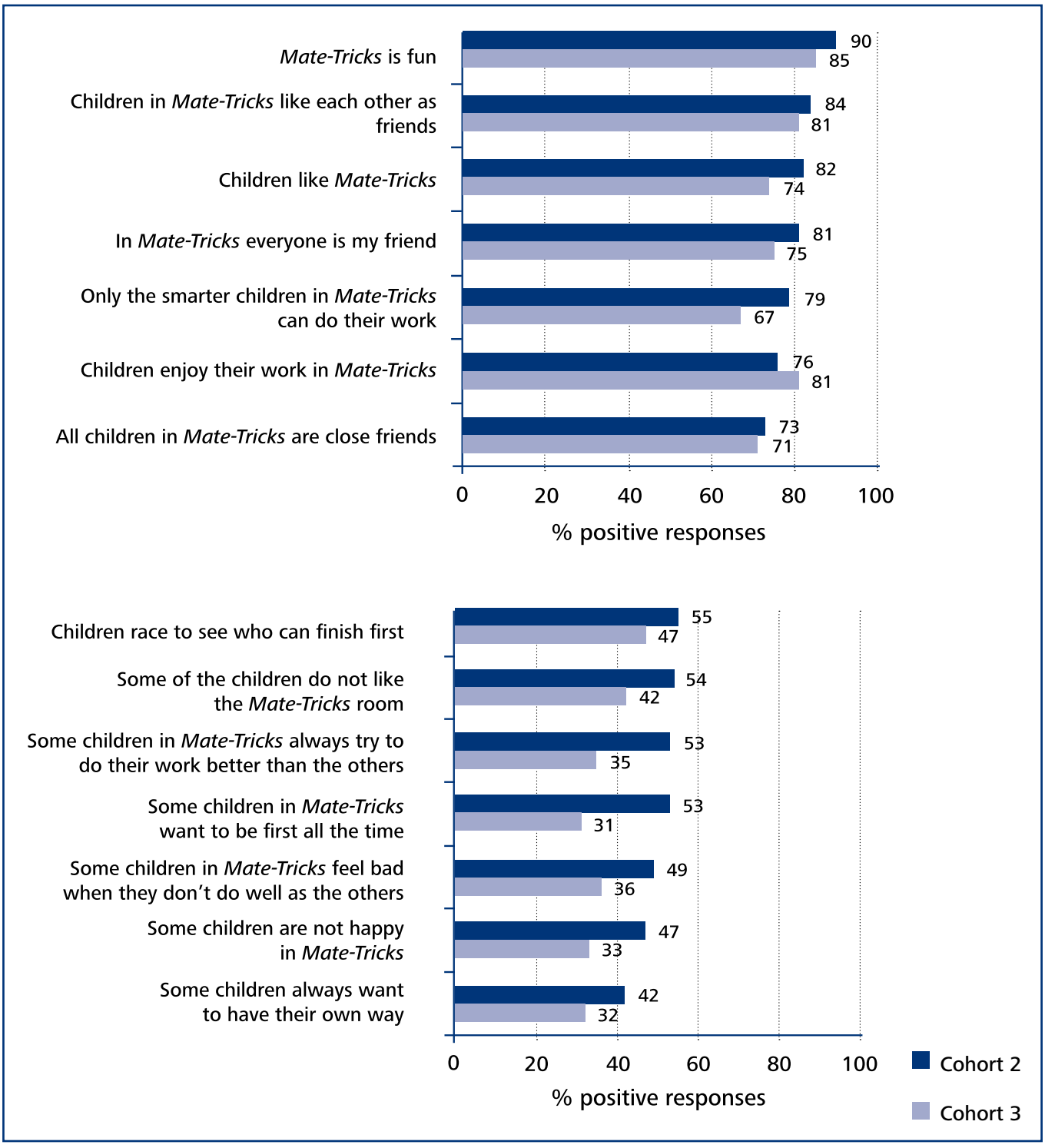
The majority of children seem well satisfied with what happens in the *Mate-Tricks* sessions. The majority of children in both cohorts responded favourably to every item related to task ('Client Satisfaction Questionnaire'). In particular, they were very positive about the help they get at *Mate-Tricks* (Cohort 2 = 89% giving positive responses; Cohort 3 = 88%), how much the programme helps them (86% and 88% positive, respectively), what they think of *Mate-Tricks* (86% and 89% positive, respectively) and how happy they are with it (85% and 87% positive, respectively). Children in Cohort 3 were more favourable than those in Cohort 2 in relation to 7 out of 9 of the Client Satisfaction questions. However, these differences were not found to be statistically significant. Figure 5.1 presents the percentage of positive responses for every item on the CSQ scale.

Figure 5.1: Percentage positive responses for the questions on task ('Client Satisfaction Questionnaire')



For the most part, children were also positive about the *Mate-Tricks* learning environment ('My Class Inventory' scale). In particular, they were very favourable about the fact that *Mate-Tricks* is fun (Cohort 2 = 85% positive; Cohort 3 = 90% positive), that the children in *Mate-Tricks* like each other as friends (81% and 84% positive, respectively) and that children like *Mate-Tricks* (74% and 82% positive, respectively). Figure 5.2 presents the proportions providing a positive response to the learning environment section of the questionnaire ('My Class Inventory'). Children in Cohort 3 generally responded more favourably than those in Cohort 2 when asked about their *Mate-Tricks* learning environment. However, these differences were not found to be statistically significant.

Figure 5.2: Percentage positive responses for the questions on learning environment ('My Class Inventory')

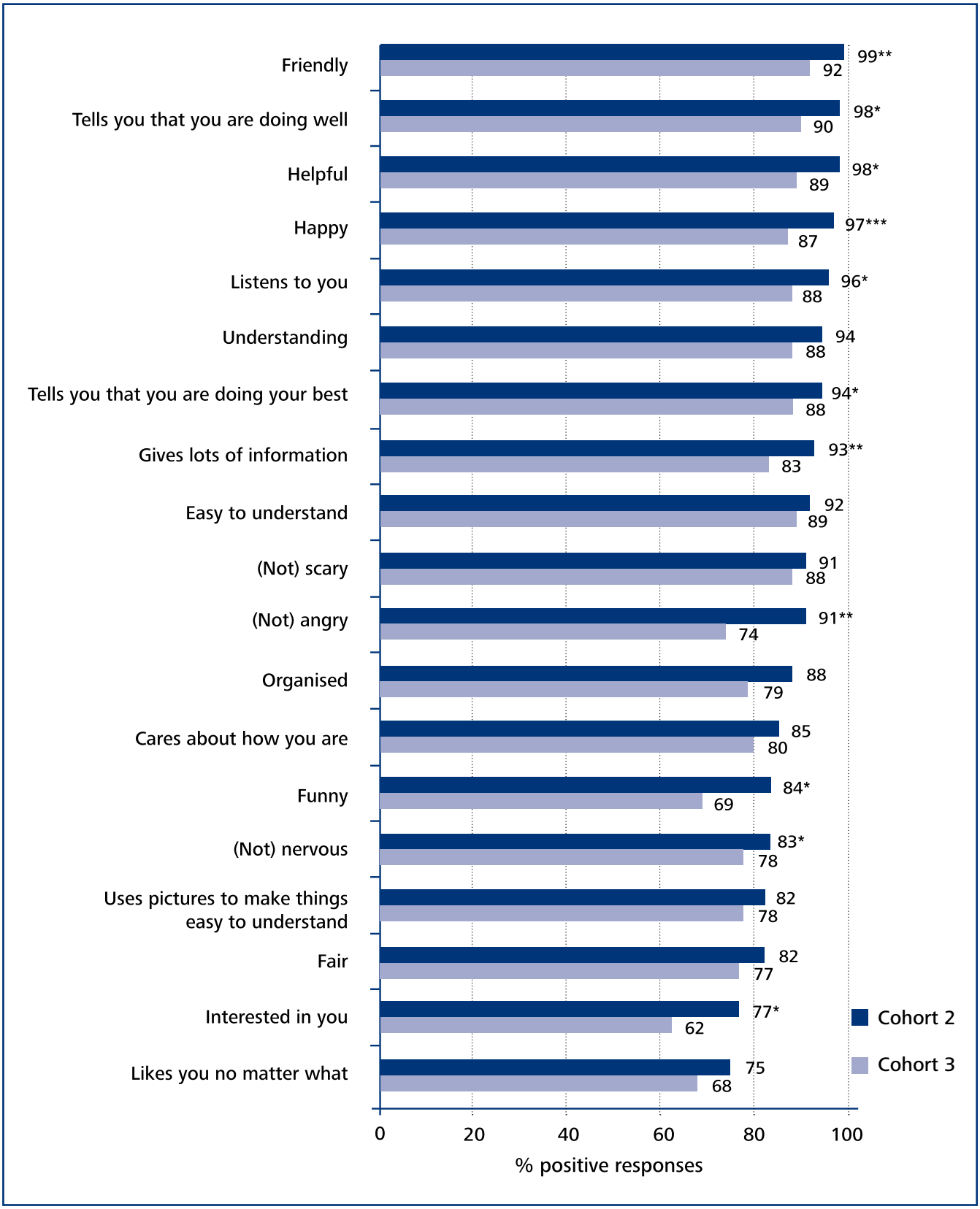


Children were negative about some aspects of the learning environment, in particular about children wanting their own way, that some children are not happy in *Mate-Tricks*, that some children feel bad when they do not do as well as the others, and that a few children want to be first all the time. Four of the least positive items were related to competitiveness. As these items' scores have been reversed scored and a longer bar (in Figure 5.2) represents a positive response, it can be seen that Cohort 3 are less negative than Cohort 2 about these elements of the programme.

Overall, the children were very positive about the disposition of their facilitators *(see Figure 5.3)*. The descriptions that evoked the most positive responses for both cohorts were 'friendly' (Cohort 2 = 92% positive; Cohort 3 = 99% positive), 'tells you that you are doing well' (90% and 98% positive, respectively) and 'helpful' (89% and 98% positive, respectively). Children in Cohort 3 were more positive than those in Cohort 2 about their facilitators for all 19 items on the checklist. In fact, children in Cohort 3 were significantly more positive in relation to 11 items: 'happy' (at $p<0.001$), 'friendly', 'gives lots of information', '(not) angry' (all at $p<0.01$), as well as 'tell you that you are doing well', 'helpful', 'listens to you', 'tells you that you are doing your best', 'funny', '(not) nervous' and 'interested in you' (all at $p<0.05$).

Figure 5.3: Percentage positive responses for the questions on disposition of facilitator ('Facilitator Checklist')

Note: Significance between mean scores from Cohorts 2 and 3 are shown (*** = p<0.001; ** = p<0.01; * = p<0.05)



The overall means for three of the scales used for the Client Satisfaction Survey were broken down into individual schools for each cohort. The 'schools' represent the *Mate-Tricks* groups and are compared for each cohort as there were some differences in each year. For example, there were changes to the staff that facilitated some groups and the settings were slightly different for some groups. Also, the mean values and ANOVA results were different between *Mate-Tricks* groups and cohorts, so they are presented separately to give the most accurate picture of the results.

Table 5.3 details the mean values for each scale, by school, for Cohort 2. Children in School K were most positive for two scales ('My Class Inventory' and 'Facilitator Checklist'). Children in School M were the least favourable for two scales ('Client Satisfaction' and 'Facilitator Checklist'). This would suggest that Cohort 2 children were reporting slightly different experiences with the *Mate-Tricks* programme, depending on which group they were in. However, an analysis of variance was conducted for each scale with respect to the Cohort 2 mean responses. There was a significant difference between groups for only one scale – the 'My Class Inventory' scale (at $p<0.001$).

Table 5.3: Mean values for each scale, by school, for Cohort 2

Note: Significance between mean scores between groups are shown (*** = $p<0.001$)

Scale	Cohort 2							
	School H	School H & N	School I	School J	School K	School L	School M	ANOVA
Client Satisfaction	3.95	4.58	4.48	4.22	4.22	3.98	3.92	
My Class Inventory	2.54	3.57	3.52	3.37	4.31	3.54	3.50	***
Facilitator Checklist	4.31	4.56	4.37	4.30	4.64	4.31	4.02	

Table 5.4 details the mean values for each scale, by school, for Cohort 3. Children in School H and N were most positive for two scales ('My Class Inventory' and 'Facilitator Checklist'). Children in School K were the least favourable for two scales ('Client Satisfaction' and 'My Class Inventory'). This would suggest that Cohort 3 children were reporting slightly different experiences with the *Mate-Tricks* programme, depending on which group they were in. In fact, an analysis of variance was conducted for each scale with respect to the Cohort 3 mean responses. There was a significant difference between groups for two scales – the 'My Class Inventory' scale (at $p<0.001$) and the 'Client Satisfaction' scale (at $p<0.01$).

Table 5.4: Mean values for each scale, by school, for Cohort 3

Note: Significance between mean scores between groups are shown (*** = $p<0.001$; ** = $p<0.01$)

Scale	Cohort 3							
	School H	School H & N	School J	School K	School K & I	School L	School M	ANOVA
Client Satisfaction	4.72	4.47	4.80	3.46	4.11	4.43	4.34	**
My Class Inventory	4.31	4.37	4.20	2.89	3.46	3.06	3.66	***
Facilitator Checklist	4.80	4.81	4.68	4.52	4.38	4.52	4.55	

The data presented in Tables 5.3 and 5.4 suggest that there is no obvious trend by site. For example, children in School K were some of the most favourable in Cohort 2 but among the least positive in Cohort 3. The ANOVA results suggest that there are differences in the experiences between groups, but no one site demonstrated a particularly positive or negative experience. There is no overall pattern in the children's responses compared with the differences in location/space. The differences with regard to the Client Satisfaction scales are therefore complex and could be related to a number of factors. For example, as reported in the interview data, the children's experiences of *Mate-Tricks* could be related to group behaviour. In particular, facilitators in School K in Cohort 3 found the behaviour particularly challenging compared to any other group they had worked with throughout the three years. This may explain the difference in the experiences of children at this site in Cohorts 2 and 3. However, the overall influence of all child satisfaction factors in relation to the main effects of the programme are investigated in the exploratory analysis (*see Section 4.3*).

5.10 Conclusions

5.10.1 Positive aspects of *Mate-Tricks*

Evidence from the interview and focus group data clearly shows that those engaged with *Mate-Tricks* were encouraged about the impact of the programme on the children involved and about the manual/programme itself. The interviews highlighted that those involved were positive about the improvements in children's pro-social skills, knowledge and abilities, as well as their confidence and their enjoyment and enthusiasm. Respondents were positive about noticeable differences at school, their attitudes towards school and the sustainable/long-term benefits of *Mate-Tricks*. Interviewees were very positive about specific aspects of either the content of the programme or the approaches used to deliver it, to include the fact that it was a manualised approach. The interviewees were also positive about the planning and reflection processes.

Interviewees were positive about facilitation, including training; the use of a co-facilitation approach; the relationship between the two youth workers; and the facilitator's approach to their work. In terms of parental involvement, interviewees talked about the very thorough methods employed to communicate with parents. The majority of references to CDI were positive and, in particular, interviewees talked about the positive support and effective communication with CDI. The references to the Communities of Practice (COP) meetings were mainly positive, with interviewees talking about the approaches used in the sessions and their content.

The most frequently mentioned improvements were the facilitators' skills, abilities, delivery and attitudes towards the *Mate-Tricks* programme. There were several references to improvements in the COPs and how the manual content had improved. An improvement in the general attitudes of schools towards the *Mate-Tricks* programme was also mentioned. Several interviewees talked about how there was an initial scepticism, but that schools became much more positive.

Given that none of the groups had a dedicated space, very few issues were raised in relation to the location/space and it did not appear to be a huge issue for those involved with *Mate-Tricks*. In fact, facilitators were very well prepared and did not take a long time to set-up sessions.

Evidence from the observations showed an obvious focus on positive discipline and maintaining a positive ethos in all of the settings – it is clear that the core of the programme ran through the sessions observed. Although five types of co-facilitation were observed, it was balanced in terms of the workload and both facilitators were focused on the positive ethos.

A wide range of skills and strategies was observed across the *Mate-Tricks* sites. There was a great variety in the types of questioning and the discussion was in-depth – it is obvious that the children learnt a lot from the discussion element and retained a lot of this information. Space, time and resources were generally very well managed: the facilitators made excellent use of basic resources and covered a lot of content without the session feeling rushed. Assessment and differentiation were apparent throughout the observations and numerous strategies were in place to deal with behaviour issues as well as children's academic capabilities.

The majority of children seem satisfied with the *Mate-Tricks* sessions. The majority of children in both cohorts responded positively to every item related to task ('Client Satisfaction Questionnaire', CSQ). For the most part, the majority of children were positive about the *Mate-Tricks* learning environment ('My Class Inventory' scale) and also very positive about the disposition of their facilitators ('Facilitator Checklist'). Children in Cohort 3 were more positive than children in Cohort 2 for all three scales. There were differences in the experiences between groups, but no one site demonstrated a particularly positive or negative experience. Given that the Cohort 2 and Cohort 3 school groups have attended the same sites with the same facilitators, it would appear that the children's experiences were not based on any specific site-related factor (space, location, facilitation team).

5.10.2 Issues with *Mate-Tricks*

In terms of the impact on children, interviewees raised issues related to behaviour problems at *Mate-Tricks* and about the suitability of the programme for all 'types' of children – for example, children with certain personalities, deep-rooted problems and behavioural problems. The main issues in relation to the programme/manual related to the fact that the manual was incomplete in the first year and evolving in the second year. Also, a few interviewees talked about problems with timing and issues with fidelity to the manual and referenced numerous approaches and changes to facilitation models. The majority of negative responses relating to facilitation were about the youth workers' limited experience in relation to delivering manualised programmes.

Parent attendance was cited as an ongoing issue. However, it is important to note that the service providers made numerous changes and put complementary strategies in place in an attempt to reach a higher number of parents. These included house calls, communication by text and telephone, reorganisation of the starting time of parent sessions, amalgamation of groups in order to offer two alternate session times, and general positive communication with parents who pick up their children from *Mate-Tricks*. During the interviews, the service provider staff and CDI staff made further suggestions to improve parent attendance, such as parent sessions taking place closer together (e.g. over a period of 6 weeks instead of being split up over the academic year) or increasing the number of sessions to facilitate group belonging. It would appear that this is an ongoing issue for schools and the service providers in the area, and is something that everyone has been, and is, committed to improving. In terms of issues with the Communities of Practice (COP) meetings, most of these references centred on earlier meetings (e.g. in the first year) and the majority of interviewees clarified that the COPs have improved.

Evidence from the observations suggest that the opening activities ('snack/roll call/rules', 'opening game') and the closing activities ('rewards', 'closing game') were the most difficult to manage with respect to time and need to be monitored and/or addressed in any future implementation of the *Mate-Tricks* programme. In two sites, the space could have been used better to ensure the children were not sitting around a table for the entire session.

5.10.3 Suggested improvements

Throughout the interviews and focus groups, participants made various recommendations in relation to how *Mate-Tricks* could be improved. It is important to note that no specific significant changes were recommended by a majority of interviewees, rather a wide variety of suggestions were made by individuals, including:

- Changes to the children's sessions in terms of the structure/content and the approaches used to deliver *Mate-Tricks* – for example, inserting supplementary resources into the manual (e.g. posters, handouts, worksheets, scrap-books); adding 'free' break sessions/time sections into the programme every few weeks; alternative activities; and greater support for different types of children.

Aside from these suggested changes, it is important to note that the service provider staff, one school principal, several children and parents, three facilitators and CDI staff recommended that *Mate-Tricks* is either extended or remains unchanged.

Chapter 6: Summary and Discussion

Mate-tricks

6.1 Discussion of findings

6.1.1 Main effects

The majority of the *Mate-Tricks* programme outcomes showed no significant change. However, there were two statistically significant effects of the *Mate-Tricks* programme and three other effects that approached significance.

The two significant effects found were unfavourable and child-reported. There was an increase in the primary outcome of **child-reported anti-social behaviour** (*d*=+0.24). There was also an increase in the secondary outcome of **child-reported authoritarian parenting** (*d*=+0.31). There was one further adverse effect that approached significance – an increase in **child-reported liberal parenting** (*d*=+0.26).

There were two positive programme effects on secondary outcomes that approached significance. These were an increase in **conflict tactics** reported by the children (*d*=+0.21) and an **improvement in relationships with mothers** reported by the children (*d*=+0.19).

Although the negative effects are not desirable, they are understandable given the substantial minority of negative effects that have been found among previous rigorous evaluations of social and emotional learning programmes (at least 29% according to Lipsey, 1992). Furthermore, several recent studies have reported adverse effects of the Strengthening Families Program, which forms part of the *Mate-Tricks* programme (Semeniuk *et al*, 2010; Riesch *et al*, 2012; Gottfredson *et al*, 2009).

The findings also concur with the emerging evidence of effectiveness for after-school behaviour programmes. The current study showed no effects on the majority of outcomes. Similarly, a meta-analysis by Zeif *et al* (2006) showed that 84% of the outcomes measured in behavioural or emotional learning after-school programmes showed no effects. Furthermore, the production of some negative effects, as in this study, replicates findings in recent studies of after-school programmes by James-Burdumy *et al* (2008) and Linden *et al* (2011). Therefore, there is little evidence of 'what works' in relation to after-school behaviour programmes.

All this research forms part of the wider body of evidence that shows interventions focused on changing psychological outcomes have the potential to cause adverse effects as well as benefits (Lilienfeld, 2007). In essence, it is difficult to improve behavioural outcomes in groups of children.

It has been hypothesised that evaluations detecting negative effects of after-school behavioural programmes have simply measured an increase in children's sensitivity to, or awareness of, their bad behaviour (Linden *et al*, 2011). However, there are several reasons why this is unlikely to be the case. Firstly, the well-recognised effects of social desirability (the Hawthorn effect and the Pygmalion effect) would act in the opposite direction to this hypothesised sensitivity effect. In other words, children in the intervention group may also have had an increased desire to portray themselves in a better light having been involved in the *Mate-Tricks* programme. Secondly, the logic of a sensitivity effect would suggest that if children were more sensitive to their anti-social behaviour, then they would also have increased sensitivity to their pro-social behaviour. However, the changes in pro-social behaviour in this study were also in a negative direction (although not significant). Lastly, given the size of the negative effects on anti-social outcomes in this study, it would be hard to justify this as simply an increase in sensitivity. On the whole, with a lack of evidence for a sensitivity effect and the fact that the negative effects on both anti-social and pro-social behaviour are relatively large, it is deemed appropriate to take the results at face value.

It should be remembered that two of the three programme effects approaching significance were positive. These results would probably need replication with a larger sample size to reach statistical significance. However, this shows some potential positive benefits of the programme and highlights areas of positive change that could be built upon within the community.

6.1.2 Exploratory analysis

The exploratory analysis was conducted to identify if any of the *Mate-Tricks* effects were influenced by other factors.

Specific primary and secondary outcomes were influenced by a range of factors, including the cohort the child participated in, whether or not they had a special educational need and the number of sessions they attended. However, the most consistent and statistically significant influences were the number of *Mate-Tricks* sessions attended by parents and the children's general satisfaction with the *Mate-Tricks* programme (i.e. *Mate-Tricks* session tasks, session behaviour and facilitator dispositions). This can be summarised as a greater level of child and parent engagement.

Increased child and parent engagement with the programme was consistently associated with positive changes across most child outcomes, including increasing pro-social behaviour; reducing anti-social behaviour; increasing school attendance; improving relationships with parents; improving parenting styles; and increasing trait of emotional intelligence.

These findings could suggest that if *Mate-Tricks* were to be adapted, with a focus on only recruiting parents and children who are likely to engage with the programme, there could potentially be positive effects of the programme. However, this is problematic since recruiting parents who will engage is a difficult task within communities of particular social and economic disadvantage, like Tallaght West. In fact, the process evaluation *(see below)* revealed that facilitators went to considerable effort and were already employing numerous strategies to boost parental involvement. Furthermore, a programme that only serves a section of the community (i.e. engaged parents and children) would not meet the original aim of the programme, which is based on community need.

6.1.3 Process evaluation

The first thing to note about the findings of the *Mate-Tricks* process evaluation is that the views and observations of the programme are generally very positive. This may appear to be in contrast with the findings from the analysis of programme effects. In other words, it suggests there are contradictions between the qualitative and quantitative findings. This is not an unusual occurrence in mixed-methods research and programme evaluations (Pluye *et al*, 2009; McConney *et al*, 2002).

Despite this, the process evaluation findings are not necessarily in clear disagreement with the outcome analysis. In fact, it is suggested that they support specific aspects of the exploratory analysis. This inference is based on the fact that process information was generally gathered from stakeholders who were engaged and invested in the programme. Similarly, the exploratory analysis provides evidence that those engaged in the programme obtained the most beneficial and potentially positive programme effects. In essence, the combined findings from the process evaluation and the quantitative data provided by engaged parents and their children is more favourable towards the *Mate-Tricks* programme than the findings from the full sample of parents and children.

The process evaluation can also help to explore reasons for the observed adverse effects of the programme. These reasons cover a range of implementation and experimental issues. Firstly, low engagement by parents in *Mate-Tricks* sessions was the norm. In fact, there is a question over the extent to which parents have actually been exposed to the programme since attendance was so low. Secondly, session behaviour was shown to have been a significant influence on a wide range of outcomes and the child satisfaction data shows generally a positive view of behaviour in the programme sessions. However, when asked about negative aspects of the programme, the children also endorse these views to a substantial

degree (over 50% in some cases – *see Figure 5.2*). Thirdly, a number of facilitators reported, through their reflective practice, the difficulty of dealing with the behaviour of children with special educational needs in this age group. Fourthly, stakeholders reported difficulties in the implementation of the programme, particularly using the programme manual in the first year, and variation in facilitation management styles.

Finally, the commitment and hard work of the service providers and facilitators is clear from the process evaluation. Therefore, the absence of positive effects is not due to a lack of desire or effort, on their part, to improve children's outcomes. Rather, the model of change or tools provided to them (i.e. the *Mate-Tricks* programme) was not effective in this community context.

6.1.4 Study limitations

There are several study limitations that must be considered when interpreting the results. The first is that attrition of participants may have reduced study power to a degree where some significant effects have not been detected. This is particularly the case in the parent sample, where only 21% (N=144) of parents completed both pre- and post-tests.

Despite substantial efforts to engage schools in the *Mate-Tricks* programme by CDI, facilitators and the research team, there were issues with engaging two schools in the programme and its evaluation. This fact may limit the study's conclusions, with the greatest impact on the research being in relation to study power. However, the sample sizes are large enough and diversity of responses wide enough to be reasonably robust and thus provide an overall picture of no effects of the programme.

Further limitations concern the measurements used in the study. Since there is a limit to the number of things that can be measured in programme evaluations, there is always a question over whether other effects have not been measured. However, there was a comprehensive spread of measures covering pro-social behaviours, skills and attitudes in the study and all measures were agreed by stakeholders prior to testing. The reliability and validity of measures were also monitored across the three cohorts. Lastly, one scale showed low reliability (the conflict tactics scale). So, although this was found to indicate a positive effect of the programme, caution is required in its interpretation.

6.1.5 Conclusion

In conclusion, it should be highlighted that there were no effects on the majority of the 21 outcomes investigated in this study. In addition, there were negative effects on two outcomes. There may be a number of potential reasons for the absence of effects and the few negative effects of the *Mate-Tricks* programme. Emerging research on after-school behavioural programmes would suggest the following factors may have an inhibiting influence: child fatigue after the school day; negative peer influences in referral-based programmes; differing behaviour expectations of children between school and after-school programmes; and participant recruitment and retention difficulties. This research would particularly highlight the difficulties of engaging parents and children in communities of particular social disadvantage and the resultant influence on pro-social behaviour programme effects.

In general, there are many challenges in achieving positive effects in behaviour-focused after-school programmes. In fact, recent evidence would suggest that this type of programme may not be a useful or cost-effective service. Therefore, it is recommended that the choice of any after-school programme focused on changing child behaviour is considered very carefully. Ideally, these considerations should be made in the light of available evidence. However, specific evidence on behaviour-based after-school programmes is scarce and, as indicated, not always very positive.

6.2 Recommendations

A number of recommendations are made in light of the findings above. It should be acknowledged that these recommendations have been refined in response to valuable feedback from key stakeholders (including school principals, service providers, facilitators and CDI staff). This feedback was gathered during a series of reflection groups based on a draft version of the report. In fact, the feedback from these stakeholders has been considered in a number of other aspects of the final report's presentation.

1. As the *Mate-Tricks* programme showed mostly no effects, and two statistically significant negative effects, it is recommended that its delivery is discontinued.
2. The current after-schools provision being provided through the *Mate-Tricks* programme should be replaced with previous community after-school services, which were delivered before *Mate-Tricks*, utilising the skills and professional judgement of the existing facilitators. These services should be continued until alternative evidence-based programming can be implemented in their place.
3. Since facilitators have developed extensive skills and experience in manualised service delivery, this capacity should be utilised in ongoing children's service design, planning and implementation in the Tallaght West community.
4. There is a significant body of research evidence highlighting the difficulties of implementing after-school programmes focused on child behavioural change. Thus, these programmes should be implemented with a high degree of caution, particularly in areas of social and economic disadvantage.
5. After-school programmes focused on behavioural change should be rigorously piloted and evaluated before being rolled out since they do not necessarily produce positive effects and have the potential to produce negative effects.

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Appendix 1: Linear Regression Models for Outcomes and Effects

Abbreviations used in tables: SEN = Special Educational Need; FAS = Family Affluence Scale; Sess. = sessions; Behav. = behaviour; MT = *Mate-Tricks*; Facil. Disp. = Facilitator disposition

Table A1: Statistical models for PSBQ Pro-social behaviour

Statistical models (standard errors in parentheses)										
Independent variables in the model	**Main Model**	**Sub-group analyses testing whether the following variables had an impact on the effectiveness of the intervention:**								
		Boy	**Cohort**	**SEN**	**FAS**	**Child Sess.**	**Parent Sess.**	**Class Behav.**	**MT tasks**	**Facil. Disp.**
Intervention or Control	-.017 (.102)	-.202 (.152)	-.104 (.187)	-.041 (.130)	.066 (.365)					
Pre-test score	.351 (.049)	.302 (.050)	.347 (.049)	.369 (.060)	.300 (.060)	.386 (.059)	.401 (.066)	.316 (.082)	.292 (.075)	.295 (.076)
Boy		-.484 (.155)								
Boy*int		.265 (.204)								
Cohort_2			.047 (.187)							
Cohort_3			-.018 (.193)							
Cohort_2*int			-.015 (.254)							
Cohort_3*int			.284 (.258)							
SEN				-.148 (.237)						
SEN*int				.553 (.368)						
FAS					.010 (.048)					
FAS*int					-.016 (.068)					
Child Sess.						.005 (.003)				
Parent Sess.							**.077* (.024)**			
Class Behav.								**.397* (114)**		
MT Tasks									**.379* (.091)**	
Facil. Disp.										**.362* (.077)**
Constant	2.654 (.212)	3.145 (.254)	2.659 (.240)	2.611 (.266)	2.848 (.353)	2.350 (.258)	2.223 (.280)	1.485 (.524)	1.366 (.494)	-.253 (.724)
Adjusted r^2	-.253 (.724)	.156 (.916)	.128 (.930)	.143 (.875)	.093 (.897)	.162 (.922)	.206 (.905)	.216 (.804)	.241 (.796)	.310 (.770)
n	331	331	331	207	211	229	178	93	97	88

* Significant at 0.05 level

Table A2: Statistical models for PSBQ Anti-social behaviour

Statistical models (standard errors in parentheses)										
Independent variables in the model	**Main Model**	**Sub-group analyses testing whether the following variables had an impact on the effectiveness of the intervention:**								
		Boy	**Cohort**	**SEN**	**FAS**	**Child Sess.**	**Parent Sess.**	**Class Behav.**	**MT tasks**	**Facil. Disp.**
Intervention or Control	**.194* (.092)**	.114 (.136)	.194 (.163)	.159 (.129)	.665 (.338)					
Pre-test score	.324 (.054)	.291 (.055)	.316 (.055)	.303 (.074)	.338 (.070)	.294 (.071)	.365 (.091)	.438 (.132)	.370 (.113)	.389 (.116)
Boy		.173 (.136)								
Boy*int		.181 (.183)								
Cohort_2			-.058 (.166)							
Cohort_3			.066 (.164)							
Cohort_2*int			.079 (.227)							
Cohort_3*int			-.085 (.229)							
SEN				-.146 (.233)						
SEN*int				.516 (.355)						
FAS					-.016 (.045)					
FAS*int					-.088 (.062)					
Child Sess.						.002 (.003)				
Parent Sess.							**-.053* (.025)**			
Class Behav.								**-.101* (.118)**		
MT Tasks									-.178 (.099)	
Facil. Disp.										**-.26* (.085)**
Constant	.953 (.112)	.906 (.126)	.963 (.156)	.995 (.151)	1.016 (.252)	1.107 (.167)	1.225 (.175)	1.335 (.495)	1.847 (.468)	3.370 (.784)
Adjusted r^2	.107 (.812)	.127 (.802)	.097 (.816)	.083 (.834)	.114 (.803)	.066 (.889)	.106 (.887)	.118 (.817)	.126 (.861)	.195 (.854)
n	315	315	315	193	201	216	163	84	90	80

* Significant at 0.05 level

Table A3: Statistical models for CBCL Anti-social behaviour

Statistical models (standard errors in parentheses)										
Independent variables in the model	Main Model	Sub-group analyses testing whether the following variables had an impact on the effectiveness of the intervention:								
		Boy	Cohort	SEN	FAS	Child Sess.	Parent Sess.	Class Behav.	MT tasks	Facil. Disp.
Intervention or Control	.092 (.061)	.183 (.089)	.065 (.109)	.037 (.087)	.125 (.248)					
Pre-test score	.370 (.050)	.322 (.052)	.312 (.054)	.375 (.063)	.354 (.066)	.002 (.002)	.252 (.082)	.134 (.133)	.157 (.133)	.094 (.144)
Boy		.248 (.092)								
Boy*int		-.131 (.124)								
Cohort_2			.180 (.110)							
Cohort_3			.211 (.116)							
Cohort_2*int			.086 (.149)							
Cohort_3*int			.009 (.153)							
SEN				-.144 (.153)						
SEN*int				.396 (.257)						
FAS					-.007 (.032)					
FAS*int					-.003 (.046)					
Child Sess.						.288 (.061)				
Parent Sess.							-.022 (.017)			
Class Behav.								-.208 (.093)		
MT Tasks									-.096 (.093)	
Facil. Disp.										-.112 (.069)
Constant	.951 (.094)	.884 (.097)	.906 (.107)	.958 (.126)	1.084 (.198)	1.113 (.135)	1.291 (.150)	2.253 (.443)	1.913 (.491)	2.619 (.701)
Adjusted r^2	.192 (.460)	.216 (.454)	.215 (.454)	.197 (.484)	.147 (.512)	.116 (.493)	.078 (.473)	.085 (.530)	.015 (.550)	.025 (.539)
n	228	228	228	143	151	157	118	63	66	59

Table A4: Statistical Models for Parent CBCL Anti-social behaviour

Statistical models (standard errors in parentheses)										
Independent variables in the model	**Main Model**	**Sub-group analyses testing whether the following variables had an impact on the effectiveness of the intervention:**								
		Boy	**Cohort**	**SEN**	**FAS**	**Child Sess.**	**Parent Sess.**	**Class Behav.**	**MT tasks**	**Facil. Disp.**
Intervention or Control	-.054 (.170)	-.364 (.244)	-.040 (.334)	.118 (.258)	.868 (.750)					
Pre-test score	.838 (.217)	.768 (.219)	.623 (.221)	.924 (.395)	.687 (.285)	.834 (.230)	.871 (.268)	.839 (.371)	.946 (.274)	.917 (.324)
Boy		-.292 (.235)								
Boy*int		.607 (.345)								
Cohort_2			.678 (.275)							
Cohort_3			.086 (.299)							
Cohort_2*int			.010 (.411)							
Cohort_3*int			-.103 (440)							
SEN				-.264 (.920)						
SEN*int				.431 (1.044)						
FAS					.049 (.096)					
FAS*int					.-185 (.136)					
Child Sess.						.004 (.005)				
Parent Sess.							**-.081* (.040)**			
Class Behav.								-.044 (.304)		
MT Tasks									-.014 (.183)	
Facil. Disp.										.244 (.290)
Constant	.388 (.201)	.607 (.251)	.231 (.251)	.263 (.343)	.414 (.559)	.150 (.271)	.676 (.311)	.640 1.163	.239 (.842)	-1.967 (2.681)
Adjusted r^2	.136 (.772)	.148 (.767)	.253 (.718)	.030 (.880)	.089 (.902)	.178 (.708)	.265 (.770)	.116 (.991)	.292 (.735)	.246 (.849)
n	83	83	83	54	57	53	39	25	25	24

* Significant at 0.05 level

Table A5: Statistical Models for Parent PSBQ Anti-social behaviour

Statistical models (standard errors in parentheses)										
Independent variables in the model	**Main Model**	**Sub-group analyses testing whether the following variables had an impact on the effectiveness of the intervention:**								
		Boy	**Cohort**	**SEN**	**FAS**	**Child Sess.**	**Parent Sess.**	**Class Behav.**	**MT tasks**	**Facil. Disp.**
Intervention or Control	-.054 (.170)	-.067 (.119)	.031 (.178)	-.070 (.099)	-.041 (.327)					
Pre-test score	.662 (.083)	.670 (.086)	.663 (.086)	.802 (.105)	.542 (.121)	.574 (.119)	.725 (.143)	.832 (.208)	.868 (.194)	.904 (.191)
Boy		-.084 (.112)								
Boy*int		.080 (.166)								
Cohort_2			.004 (146)							
Cohort_3			.020 (.156)							
Cohort_2*int			-.049 (.217)							
Cohort_3*int			-.078 (.224)							
SEN				.017 (.166)						
SEN*int				.277 (.233)						
FAS					.030 (.041)					
FAS*int					-.003 (.060)					
Child Sess.						<.001 (.003)				
Parent Sess.							-.007 (.022)			
Class Behav.								-.064 (.127)		
MT Tasks									.018 (.134)	
Facil. Disp.										-.105 (.116)
Constant	.750 (.195)	.783 (.204)	.739 (227)	.415 (.250)	.921 (.388)	.948 (.274)	.622 (.319)	.558 (.566)	.170 (.653)	1.139 (1.051)
Adjusted r^2	.405 (.378)	.394 (.383)	.378 (.386)	.487 (.338)	.233 (.389)	.277 (.407)	.383 (.399)	.367 (.466)	.440 (445)	.449 (.439)
n	91	90	91	59	61	57	41	26	26	26

Table A6: Statistical Models for Teacher CBCL Anti-social behaviour

Statistical models (standard errors in parentheses)										
Independent variables in the model	**Main Model**	**Sub-group analyses testing whether the following variables had an impact on the effectiveness of the intervention:**								
		Boy	**Cohort**	**SEN**	**FAS**	**Child Sess.**	**Parent Sess.**	**Class Behav.**	**MT tasks**	**Facil. Disp.**
Intervention or Control	.020 (.058)	-.027 (.082)	-.095 (.111)	.030 (.067)	.261 (.180)					
Pre-test score	.571 (.045)	.550 (.045)	.556 (.048)	.622 (.053)	.437 (.063)	.525 (.058)	.541 (.072)	.354 (.064)	.373 (.076)	.270 (.085)
Boy		.111 (.081)								
Boy*int		.130 (.115)								
Cohort_2			-.089 (.100)							
Cohort_3			-.029 (.104)							
Cohort_2*int			.158 (.145)							
Cohort_3*int			.162 (.150)							
SEN				.050 (.111)						
SEN*int				-.072 (.167)						
FAS					-.020 (.034)					
FAS*int					-.028 (.047)					
Child Sess.						.001 (.002)				
Parent Sess.							-.010 (.020)			
Class Behav.								-.009 (.063)		
MT Tasks									.006 (.065)	
Facil. Disp.										-.039 (.059)
Constant	.157 (.043)	.101 (.061)	.206 (.078)	.134 (.050)	.261 (.180)	.174 (.075)	.217 (.084)	.235 (.228)	.230 (.287)	.599 (.531)
Adjusted r^2	.396 (.454)	.416 (.447)	.391 (.455)	.387 (.449)	.247 (.509)	.340 (.525)	.338 (.545)	.336 (.340)	.259 (.401)	.128 (.396)
n	243	242	243	215	150	158	117	62	64	57

Table A7: Statistical Models for Attendance

Statistical models (standard errors in parentheses)										
Independent variables in the model	**Main Model**	**Sub-group analyses testing whether the following variables had an impact on the effectiveness of the intervention:**								
		Boy	**Cohort**	**SEN**	**FAS**	**Child Sess.**	**Parent Sess.**	**Class Behav.**	**MT tasks**	**Facil. Disp.**
Intervention or Control	-.224 (1.148)	-.513 (1.698)	1.761 (1.99)	-.847 (1.64)						
Pre-test score										
Boy		-.638 (1.640)								
Boy*int		.183 (2.311)								
Cohort_2			1.492 (1.99)							
Cohort_3			.127 (1.99)							
Cohort_2*int			-1.847 (2.82)							
Cohort_3*int			-4.080 (2.80)							
SEN				-1.821 (2.71)						
SEN*int				1.743 (4.12)						
FAS					.788 (.671)					
FAS*int					-.081 (.966)					
Child Sess.						.037 (.040)				
Parent Sess.							**.750 (.342)**			
Class Behav.								-.099 (1.93)		
MT Tasks									-1.10 (1.49)	
Facil. Disp.										-.392 (1.33)
Constant	.157 (.043)	91.388 (1.236)	90.34 (1.43)	91.40 (1.15)	87.24 (3.59)	89.63 (1.32)	88.75 (1.22)	90.53 (-.10)	95.23 (6.38)	94.33 (11.8)
Adjusted r^2	-.002 (11.43)	-.007 (11.40)	.001 (11.4)	-.009 (12.5)	.001 (-.002)	.000 (13.0)	.019 (12.0)	-.010 (14.4)	-.005 (14.2)	-.010 (14.9)
n	396	393	396	279	225	265	197	98	101	92

* Significant at 0.05 level

Table A8: : Statistical Models for Teacher-rated ADHD behaviours

Statistical models (standard errors in parentheses)										
Independent variables in the model	**Main Model**	**Sub-group analyses testing whether the following variables had an impact on the effectiveness of the intervention:**								
		Boy	**Cohort**	**SEN**	**FAS**	**Child Sess.**	**Parent Sess.**	**Class Behav.**	**MT tasks**	**Facil. Disp.**
Intervention or Control	.057 (.002)	-.044 (.081)	-.136 (.113)	.038 (.066)	-.140 (.200)					
Pre-test score	.809 (.038)	.769 (.041)	.804 (.038)	.789 (.042)	.806 (.048)	.835 (.046)	.830 (.047)	.771 (.078)	.781 (.073)	.750 (.079)
Boy		.078 (.082)								
Boy*int		.102 (.113)								
Cohort_2			-.119 (.100)							
Cohort_3			.004 (.107)							
Cohort_2*int			.218 (.143)							
Cohort_3*int			.137 (.150)							
SEN				.254 (.108)						
SEN*int				-.231 (.163)						
FAS					-.041 (.026)					
FAS*int					.044 (.037)					
Child Sess.						-.001 (.002)				
Parent Sess.							**-.029* (.015)**			
Class Behav.								-.058 (.074)		
MT Tasks									-.073 (.057)	
Facil. Disp.										-.090 (.050)
Constant	.149 (.049)	.136 (.063)	.202 (.082)	.110 (.056)	.320 (.140)	.172 (.070)	.217 (.067)	.392 (.273)	.524 (.258)	1.022 (.459)
Adjusted r^2	.613 (.478)	.610 (.474)	.613 (.478)	.595 (.482)	.603 (.469)	.638 (.477)	.688 (.447)	.557 (.489)	.592 (.501)	.579 (.498)
n	285	284	285	255	187	189	145	82	83	75

* Significant at 0.05 level

Table A9: Statistical Models for PSBQ Child-reported Victimisation

Statistical models (standard errors in parentheses)										
Independent variables in the model	**Main Model**	**Sub-group analyses testing whether the following variables had an impact on the effectiveness of the intervention:**								
		Boy	**Cohort**	**SEN**	**FAS**	**Child Sess.**	**Parent Sess.**	**Class Behav.**	**MT tasks**	**Facil. Disp.**
Intervention or Control	-.079 (.118)	-.217 (.177)	-.126 (.214)	-.078 (.166)	.755 (.470)					
Pre-test score	.5529 (.050)	.530 (.050)	0.531 (.050)	.530 (.067)	.573 (.067)	.547 (.062)	.503 (.072)	.581 (.100)	.566 (.103)	.579 (.102)
Boy		-.077 (.176)								
Boy*int		.270 (.240)								
Cohort_2			.028 (.214)							
Cohort_3			.094 (.215)							
Cohort_2*int			.186 (.294)							
Cohort_3*int			-.047 (.296)							
SEN				-.277 (.297)						
SEN*int				.362 (.484)						
FAS					.097 (.063)					
FAS*int					-.164 (.087)					
Child Sess.						-.003 (.004)				
Parent Sess.							.031 (.031)			
Class Behav.								.128 (.161)		
MT Tasks									.206 (.141)	
Facil. Disp.										.138 (.119
Constant	1.140 (.155)	1.184 (.182)	1.093 (.208)	1.179 (.213)	.593 (.387)	1.134 (.200)	1.046 (.217)	.510 (.657)	.141 (.635)	-.180 (1.071)
Adjusted r^2	.256 (1.062)	.255 (1.064)	.250 (1.067)	.232 (1.091)	.265 (1.115)	.258 (1.094)	.226 (1.108)	.268 (1.120)	.263 (1.132)	.293 (1.110)
n	323	323	323	199	208	223	170	89	93	83

Table A10: Statistical Models for Conflict Tactics

Statistical models (standard errors in parentheses)										
Independent variables in the model	**Main Model**	**Sub-group analyses testing whether the following variables had an impact on the effectiveness of the intervention:**								
		Boy	**Cohort**	**SEN**	**FAS**	**Child Sess.**	**Parent Sess.**	**Class Behav.**	**MT tasks**	**Facil. Disp.**
Intervention or Control	.666 (.344)	.559 (.512)	.148 (.589)	-.021 (.444)	3.133 (1.319)					
Pre-test score	5.286 (.477)	.316 (.053)	.179 (.054)	.299 (.060)	.157 (.067)	.301 (.064)	.311 (.076)	.171 (.105)	.199 (.106)	.151 (.108)
Boy		.083 (.503)								
Boy*int		.234 (.696)								
Cohort_2			2.333 (.597)							
Cohort_3			1.853 (.628)							
Cohort_2*int			.736 (.795)							
Cohort_3*int			.720 (.817)							
SEN				-1.562 (.807)						
SEN*int				**4.309* (1.364)**						
FAS					.435 (.176)					
FAS*int					-.447 (.245)					
Child Sess.						**.031* (.011)**				
Parent Sess.							**.323* (.087)**			
Class Behav.								.266 (.449)		
MT Tasks									.912 (.384)	
Facil. Disp.										.215 (.312)
Constant	5.286 (.477)	5.203 (.569)	4.852 (.516)	5.642 (.573)	4.969 (1.121)	5.047 (.654)	5.097 (.635)	6.926 (1.956)	3.925 (1.958)	6.450 (2.871)
Adjusted r^2	.103 (3.075)	.099 (3.082)	.206 (2.893)	.139 (2.978)	.049 (3.212)	.108 (3.092)	.171 (3.007)	.008 (3.213)	.063 (3.297)	.007 (3.119)
n	321	321	321	204	211	218	166	90	94	84

* Significant at 0.05 level

Table A11: Statistical Models for Total Clubs Attended

Statistical models (standard errors in parentheses)										
Independent variables in the model	Main Model	Sub-group analyses testing whether the following variables had an impact on the effectiveness of the intervention:								
		Boy	Cohort	SEN	FAS	Child Sess.	Parent Sess.	Class Behav.	MT tasks	Facil. Disp.
Intervention or Control	.165 (.173)	.373 (.254)	-.064 (.315)	.045 (.243)	.716 (.643)					
Pre-test score	.418 (.059)	.418 (.059)	.413 (.060)	.441 (.083)	.376 (.084)	.319 (.068)	.365 (.075)	.212 (.117)	.185 (.117)	.204 (.119)
Boy		.208 (.255)								
Boy*int		-.393 (.348)								
Cohort_2			-.412 (.309)							
Cohort_3			-.675 (.325)							
Cohort_2*int			.303 (.425)							
Cohort_3*int			.337 (.437)							
SEN				-.025 (.463)						
SEN*int				.115 (.701)						
FAS					.083 (.087)					
FAS*int					-.106 (.120)					
Child Sess.						.002 (.005)				
Parent Sess.							-.042 (.041)			
Class Behav.								.164 (.212)		
MT Tasks									.191 (.172)	
Facil. Disp.										.198 (.151)
Constant	1.288 (.150)	1.109 (.210)	1.614 (.254)	1.273 (.205)	.770 (.454)	1.365 (.205)	1.584 (.197)	.915 (.753)	.822 (.741)	-.168 (1.334)
Adjusted r^2	.125 (1.607)	.123 (1.609)	.129 (1.603)	.104 (1.655)	.086 (1.605)	.081 (1.568)	.114 (1.531)	.025 (1.561)	.020 (1.575)	.038 (1.550)
n	346	346	346	212	228	235	183	95	101	92

Table A12: Statistical Models for Total Friends

Statistical models (standard errors in parentheses)										
Independent variables in the model	**Main Model**	**Sub-group analyses testing whether the following variables had an impact on the effectiveness of the intervention:**								
		Boy	**Cohort**	**SEN**	**FAS**	**Child Sess.**	**Parent Sess.**	**Class Behav.**	**MT tasks**	**Facil. Disp.**
Intervention or Control	.059 (.108)	.231 (.156)	.001 (.197)	.116 (.137)	.085 (.391)					
Pre-test score	.465 (.050)	.460 (.051)	0.457 (.050)	.420 (.062)	.392 (.064)	.435 (.060)	.497 (.065)	.429 (.088)	.420 (.087)	.505 (.091)
Boy		.152 (.159)								
Boy*int		-.333 (.216)								
Cohort_2			-.167 (.192)							
Cohort_3			.208 (.202)							
Cohort_2*int			.212 (.265)							
Cohort_3*int			-.083 (.272)							
SEN				-.613 (.255)						
SEN*int				.710 (.391)						
FAS					.058 (.052)					
FAS*int					.013 (.073)					
Child Sess.						-2.92E (.003)				
Parent Sess.							.011 (.027)			
Class Behav.								-.009 (.137)		
MT Tasks									-.107 (.107)	
Facil. Disp.										-.114 (.095)
Constant	1.683 (.182)	1.612 (.193)	1.708 (.221)	1.859 (.226)	1.589 (.334)	1.873 (.232)	1.606 (.240)	1.887 (.557)	2.383 (.535)	2.628 (.869)
Adjusted r^2	.202 (.979)	.204 (.979)	.204 (.978)	.206 (.914)	.156 (.964)	.184 (.978)	.242 (.970)	.191 (1.001)	.188 (.979)	.252 (.971)
n	333	333	333	204	221	226	176	92	96	87

Table A13: Statistical Models for APQ Relationship with Mum

Statistical models (standard errors in parentheses)										
Independent variables in the model	**Main Model**	**Sub-group analyses testing whether the following variables had an impact on the effectiveness of the intervention:**								
		Boy	**Cohort**	**SEN**	**FAS**	**Child Sess.**	**Parent Sess.**	**Class Behav.**	**MT tasks**	**Facil. Disp.**
Intervention or Control	.172 (.088)	.311 (.130)	.111 (.163)	.164 (.116)	.415 (.330)					
Pre-test score	.523 (.050)	.518 (.051)	.524 (.050)	.555 (.061)	.556 (.059)	.544 (.061)	.523 (.068)	.524 (.091)	.420 (.090)	.413 (.100)
Boy		.058 (.131)								
Boy*int		-.286 (.178)								
Cohort_2			-.071 (.159)							
Cohort_3			.101 (.166)							
Cohort_2*int			.265 (.217)							
Cohort_3*int			-.118 (.226)							
SEN				-.201 (.241)						
SEN*int				-.233 (.408)						
FAS					.060 (.043)					
FAS*int					-.042 (.062)					
Child Sess.						.001 (.003)				
Parent Sess.							.032 (.021)			
Class Behav.								**.259* (.115)**		
MT Tasks									**.403* (.100)**	
Facil. Disp.										**.262* (.085)**
Constant	1.757 (.198)	1.743 (.222)	1.751 (.221)	1.666 (.245)	1.331 (.318)	1.794 (.234)	1.841 (.254)	.988 (.511)	.579 (.502)	.032 (.757)
Adjusted r^2	.292 (.718)	.297 (.716)	.292 (.718)	.321 (.715)	.336 (.714)	.309 (.704)	.316 (.696)	.338 (.734)	.367 (.707)	.332 (.699)
n	265	265	265	169	175	180	140	77	76	69

* Significant at 0.05 level

Table A14: Statistical Models for APQ Relationship with Dad

Statistical models (standard errors in parentheses)										
Independent variables in the model	**Main Model**	**Sub-group analyses testing whether the following variables had an impact on the effectiveness of the intervention:**								
		Boy	**Cohort**	**SEN**	**FAS**	**Child Sess.**	**Parent Sess.**	**Class Behav.**	**MT tasks**	**Facil. Disp.**
Intervention or Control	.190 (.115)	.264 (.172)	-.051 (.206)	.089 (.155)	1.156 (.465)					
Pre-test score	.553 (.057)	.555 (.057)	.555 (.057)	.561 (.071)	.548 (.069)	.506 (.072)	.490 (.074)	.381 (.103)	.299 (.100)	.287 (.108)
Boy		.093 (.168)								
Boy*int		-.130 (.233)								
Cohort_2			-.312 (.201)							
Cohort_3			-.161 (.211)							
Cohort_2*int			.470 (.279)							
Cohort_3*int			.201 (.290)							
SEN				-.596 (.294)						
SEN*int				.701 (.438)						
FAS					.080 (.057)					
FAS*int					-.155 (.085)					
Child Sess.						.003 (.003)				
Parent Sess.							.046 (.027)			
Class Behav.								.241 (.143)		
MT Tasks									**.369* (.111)**	
Facil. Disp.										**.317* (.101)**
Constant	1.506 (.208)	1.443 (.237)	1.671 (.238)	1.565 (.270)	1.025 (.358)	1.722 (.262)	1.801 (.270)	1.509 (.587)	1.078 (.520)	-.184 (.920)
Adjusted r^2	.308 (.855)	.302 (.859)	.305 (.857)	.324 (.860)	.342 (.872)	.262 (.834)	.300 (.784)	.228 (.831)	.300 (.776)	.263 (.773)
n	223	223	223	142	146	148	114	56	57	52

* Significant at 0.05 level

Table A15: Statistical Models for APQ Liberal Parenting

Statistical models (standard errors in parentheses)										
Independent variables in the model	Main Model	Sub-group analyses testing whether the following variables had an impact on the effectiveness of the intervention:								
		Boy	Cohort	SEN	FAS	Child Sess.	Parent Sess.	Class Behav.	MT tasks	Facil. Disp.
Intervention or Control	.179 (.092)	.188 (.130)	-.087 (.162)	.001 (.106)	.324 (.303)					
Pre-test score	.372 (.066)	.338 (.070)	.369 (.068)	.231 (.071)	.416 (.078)	.285 (.082)	.453 (.104)	.452 (.123)	.601 (.129)	.612 (.135)
Boy		.137 (.138)								
Boy*int		0.003 (.184)								
Cohort_2			-.247 (.159)							
Cohort_3			-.387 (.166)							
Cohort_2*int			.351 (.223)							
Cohort_3*int			.430 (.230)							
SEN				-.362 (.192)						
SEN*int				.638 (.327)						
FAS					-.004 (.038)					
FAS*int					-.013 (.056)					
Child Sess.						.004 (.003)				
Parent Sess.							**-.06* (.024)**			
Class Behav.								**-.25* (.102)**		
MT Tasks									-.140 (.093)	
Facil. Disp.										-.164 (.093)
Constant	1.228 (.171)	1.234 (.175)	1.450 (.207)	1.612 (.190)	1.101 (.250)	1.425 (.231)	1.380 (.260)	1.997 (.498)	1.476 (.500)	2.308 (.885)
Adjusted r^2	.136 (.652)	.136 (.652)	.145 (.649)	.100 (.558)	.188 (.596)	.072 (.697)	.195 (.672)	.304 (.517)	.288 (.616)	.303 (.623)
n	204	204	204	129	131	135	104	51	56	51

* Significant at 0.05 level

Table A16: Statistical Models for APQ Supportive Parenting

Statistical models (standard errors in parentheses)										
Independent variables in the model	**Main Model**	**Sub-group analyses testing whether the following variables had an impact on the effectiveness of the intervention:**								
		Boy	**Cohort**	**SEN**	**FAS**	**Child Sess.**	**Parent Sess.**	**Class Behav.**	**MT tasks**	**Facil. Disp.**
Intervention or Control	.046 (.089)	.161 (.129)	-.280 (.160)	.040 (.117)	.755 (.323)					
Pre-test score	.526 (.048)	.520 (.050)	.527 (.048)	.446 (.061)	.523 (.056)	.537 (.058)	.519 (.064)	.377 (.087)	.328 (.088)	.311 (.084)
Boy		.098 (.130)								
Boy*int		-.229 (.180)								
Cohort_2			-.348 (.155)							
Cohort_3			-.104 (.162)							
Cohort_2*int			**.570* (.216)**							
Cohort_3*int			.342 (.223)							
SEN				-.288 (.226)						
SEN*int				.499 (.384)						
FAS					.085 (.042)					
FAS*int					-.119 (.061)					
Child Sess.						<.001 (.003)				
Parent Sess.							.030 (.021)			
Class Behav.								.194 (.115)		
MT Tasks									**.242* (.091)**	
Facil. Disp.										**.167* (.078)**
Constant	1.978 (.199)	1.943 (.229)	2.146 (.218)	2.298 (.260)	1.524 (.325)	1.969 (.247)	1.967 (.263)	1.978 (.517)	1.846 (.475)	1.494 (.723)
Adjusted r^2	.306 (.733)	.305 (.733)	.318 (.727)	.231 (.731)	.337 (.696)	.319 (.710)	.337 (.675)	.227 (.709)	.243 (.705)	.223 (.649)
n	271	271	271	175	176	180	137	74	75	69

* Significant at 0.05 level

Table A17: Statistical Models for APQ Authoritarian Parenting

Statistical models (standard errors in parentheses)										
Independent variables in the model	**Main Model**	**Sub-group analyses testing whether the following variables had an impact on the effectiveness of the intervention:**								
		Boy	**Cohort**	**SEN**	**FAS**	**Child Sess.**	**Parent Sess.**	**Class Behav.**	**MT tasks**	**Facil. Disp.**
Intervention or Control	**.313* (.107)**	.500 (.154)	.344 (.194)	.224 (.142)	.135 (.402)					
Pre-test score	.399 (.051)	.397 (.052)	.398 (.052)	.332 (.067)	.412 (.065)	.363 (.064)	.448 (.074)	.433 (.102)	.465 (.103)	.510 (.109)
Boy		.112 (.156)								
Boy*int		-.387 (.214)								
Cohort_2			.047 (.192)							
Cohort_3			.068 (.197)							
Cohort_2*int			-.013 (.264)							
Cohort_3*int			-.073 (.268)							
SEN				-.084 (.272)						
SEN*int				.552 (.435)						
FAS					.025 (.051)					
FAS*int					.018 (.075)					
Child Sess.						**.007* (.003)**				
Parent Sess.							.038 (.028)			
Class Behav.								.034 (.143)		
MT Tasks									.053 (.116)	
Facil. Disp.										-.150 (.110)
Constant	1.411 (.150)	1.350 (.169)	1.372 (.194)	1.595 (.191)	1.335 (.312)	1.552 (.196)	1.496 (.216)	1.523 (.583)	1.365 (.531)	2.772 (.973)
Adjusted r^2	.188 (.921)	.194 (.918)	.178 (.927)	.134 (.914)	.180 (.923)	.154 (.966)	.194 (.950)	.164 (.999)	.189 (1.000)	.205 (.975)
n	301	301	301	1888	197	206	158	83	86	79

* Significant at 0.05 level

Table A18: Statistical Models for APQ Positive Parenting

Statistical models (standard errors in parentheses)										
Independent variables in the model	**Main Model**	**Sub-group analyses testing whether the following variables had an impact on the effectiveness of the intervention:**								
		Boy	**Cohort**	**SEN**	**FAS**	**Child Sess.**	**Parent Sess.**	**Class Behav.**	**MT tasks**	**Facil. Disp.**
Intervention or Control	-.015 (.083)	-.019 (.124)	-.149 (.194)	-.172 (.125)	-.347 (.298)					
Pre-test score	.628 (.087)	.644 (.087)	.619 (.087)	.672 (.121)	.551 (.110)	.652 (.133)	.627 (.146)	.613 (.118)	.572 (.132)	.597 (.133)
Boy		.130 (.122)								
Boy*int		.016 (.168)								
Cohort_2			.117 (.162)							
Cohort_3			-.148 (.179)							
Cohort_2*int			.003 (.226)							
Cohort_3*int			.435 (.242)							
SEN				.140 (.234)						
SEN*int				-.049 (.311)						
FAS					.002 (.041)					
FAS*int					.051 (.055)					
Child Sess.						.001 (.003)				
Parent Sess.							.004 (.022)			
Class Behav.								.093 (.069)		
MT Tasks									.108 (.081)	
Facil. Disp.										.094 (.078)
Constant	1.209 (.292)	1.091 (.299)	1.220 (.304)	1.075 (.410)	1.548 (.404)	1.031 (.450)	1.180 (.506)	.948 (.467)	.997 (.509)	.511 (.828)
Adjusted r^2	.307 (.446)	.320 (.443)	.327 (.439)	.281 (.487)	.245 (.448)	.239 (.467)	.221 (.489)	.439 (.319)	.370 (.360)	.355 (.367)
n	115	114	115	74	81	75	59	36	39	38

Table A19: Statistical Models for APQ Inconsistent punishment

Statistical models (standard errors in parentheses)										
Independent variables in the model	Main Model	Sub-group analyses testing whether the following variables had an impact on the effectiveness of the intervention:								
		Boy	Cohort	SEN	FAS	Child Sess.	Parent Sess.	Class Behav.	MT tasks	Facil. Disp.
Intervention or Control	.061 (.094)	.092 (.140)	.054 (.228)	-.066 (.131)	.369 (.369)					
Pre-test score	.469 (.084)	.471 (.086)	.453 (.085)	.419 (.106)	.468 (.101)	.326 (.103)	.220 (.116)	.316 (.137)	.270 (.131)	.309 (.137)
Boy		.059 (.137)								
Boy*int		-.031 (.192)								
Cohort_2			-.095 (.180)							
Cohort_3			-.022 (.195)							
Cohort_2*int			.123 (.265)							
Cohort_3*int			-.159 (.283)							
SEN				-.080 (.244)						
SEN*int				.427 (.319)						
FAS					.028 (0.48)					
FAS*int					-.062 (.070)					
Child Sess.						-.002 (.003)				
Parent Sess.							-.032 (.023)			
Class Behav.								.116 (.124)		
MT Tasks									-.108 (.106)	
Facil. Disp.										-.011 (.095)
Constant	.800 (.136)	.752 (.156)	.876 (.191)	.887 (.167)	.648 (.269)	1.113 (.189)	1.356 (.220)	.586 (.549)	1.548 (.551)	1.143 (.949)
Adjusted r^2	.209 (.503)	.203 (.507)	.197 (.507)	.194 (.509)	.207 (.547)	.111 (.499)	.083 (.502)	.089 (.534)	.119 (.518)	.094 (.534)
n	114	113	114	74	81	74	56	36	39	39

Table A20: Statistical Models for Teacher ratings of Child Trait Emotional Intelligence

Statistical models (standard errors in parentheses)										
Independent variables in the model	**Main Model**	**Sub-group analyses testing whether the following variables had an impact on the effectiveness of the intervention:**								
		Boy	**Cohort**	**SEN**	**FAS**	**Child Sess.**	**Parent Sess.**	**Class Behav.**	**MT tasks**	**Facil. Disp.**
Intervention or Control	-.174 (.145)	-.008 (.211)	-.014 (.296)	-.116 (.173)	.598 (.518)					
Pre-test score	.752 (.036)	.739 (.037)	.752 (.036)	.751 (.040)	.726 (.044)	.747 (.045)	.731 (.050)	.667 (.071)	.691 (.068)	.683 (.073)
Boy		-.094 (.209)								
Boy*int		-.384 (.292)								
Cohort_2			-.004 (.259)							
Cohort_3			-.267 (.280)							
Cohort_2*int			-.303 (.366)							
Cohort_3*int			-.063 (.397)							
SEN				-.152 (.283)						
SEN*int				-.396 (.424)						
FAS					.206 (.066)					
FAS*int					-.163 (.097)					
Child Sess.						.004 (.004)				
Parent Sess.							**.105* (.040)**			
Class Behav.								**.542* (.211)**		
MT Tasks									**.375* (.163)**	
Facil. Disp.										**.324* (.127)**
Constant	1.750 (.255)	1.889 (.290)	1.832 (.317)	1.800 (.298)	.937 (.450)	1.505 (.340)	1.421 (.344)	.167 (.783)	.292 (.735)	-.884 (1.121)
Adjusted r^2	.617 (1.197)	.624 (1.189)	.616 (1.199)	.614 (1.225)	.618 (1.180)	.607 (1.178)	.634 (1.184)	.590 (1.289)	.615 (1.238)	.608 (1.237)
n	271	269	271	243	179	178	138	78	80	71

* Significant at 0.05 level

Table A21: Statistical Models for Trait Emotional Intelligence Child

Statistical models (standard errors in parentheses)										
Independent variables in the model	**Main Model**	**Sub-group analyses testing whether the following variables had an impact on the effectiveness of the intervention:**								
		Boy	**Cohort**	**SEN**	**FAS**	**Child Sess.**	**Parent Sess.**	**Class Behav.**	**MT tasks**	**Facil. Disp.**
Intervention or Control	-.0.30 (.043)	-.060 (.063)	-.020 (.078)	-.038 (.060)	-.137 (.164)					
Pre-test score	.563 (.047)	.528 (.049)	.542 (.048)	.579 (.065)	.550 (.058)	.538 (.058)	???	.519 (.091)	.472 (.084)	.407 (.087)
Boy		-.135 (.064)								
Boy*int		.039 (.086)								
Cohort_2			-.029 (.077)							
Cohort_3			.045 (.080)							
Cohort_2*int			-.045 (.106)							
Cohort_3*int			.014 (.108)							
SEN				.032 (.109)						
SEN*int				-.212 (.168)						
FAS					-.004 (.022)					
FAS*int					.020 (.030)					
Child Sess.						8.88E (.001)				
Parent Sess.							**.027* (.011)**			
Class Behav.								**.132* (.056)**		
MT Tasks									**.152* (.045)**	
Facil. Disp.										**.148* (.040)**
Constant	1.651 (.167)	1.852 (.184)	1.720 (.179)	1.611 (.230)	1.709 (.232)	1.725 (.204)	1.755 (.222)	1.317 (.346)	1.280 (.318)	.866 (.392)
Adjusted r^2	.280 (.408)	.290 (.405)	.281 (.408)	.273 (.415)	.273 (.419)	.259 (.415)	.291 (.405)	.306 (.421)	.333 (.409)	.345 (.400)
n	361	361	361	222	236	246	190	99	104	94

* Significant at 0.05 level

Appendix 2: Further quotes from the Process Evaluation data

(presented by theme, corresponding Section in this report and interviewee group)

IMPACT ON CHILDREN: POSITIVE IMPACT ON CHILDREN (Section 5.2.1)	
Principals	I'd do it again because some of the children do seem to absolutely love it.
Children	My friends and family like me coming here because I used to be shy. I didn't speak loud enough and I felt like a little small mouse, but now I've learned how to speak louder and I'm not afraid to go up on stages. I want to learn new things to help me lower my anger. If I'm really angry, I can come to *Mate-Tricks* and that will help me to monitor my anger and they will help me to express how I'm feeling. I like my friends in *Mate-Tricks* because they help me and I never had friends who did that much for me. I had friends who did some things for me, but my friends at *Mate-Tricks*, I think they're better. We're learning about constructive criticism … It's like when somebody hurts your feelings. It could be good criticism or bad criticism. Like someone tearing out your page, that's bad. But someone saying you could do better next time, that's good. PICCS … It's Problem Identification Choices Consequences and Solutions … It's for solving problems and we did a film. Coping statements … You can say 'I'm better' in your head. It's like you're peer-pressuring yourself. I used to get in trouble a lot at school. But then when I came to *Mate-Tricks* I just decided to forget about all my past and move on. Because *Mate-Tricks* is really great to help people. If you have problems, *Mate-Tricks* helps them to sort it out. It's like a world of dreams come true. I feel happy every time I come here. I feel like I can calm down after a busy day in school. I love *Mate-Tricks* because it's fun. It's a big difference because I used to get grounded, but now I just get on with it and just be normal.
Parents	Yeah, I think they seem to learn how to cope with things. Like my son would be able to say to his brother and sister, "Mam's busy right now, so why don't you just wait a few minutes?" She has learned, especially the kids on the road, if someone's giving her grief she knows not to strike them or to run away, you know. Stand your ground, stand up for yourself and she got that from here, she did get it from here. Like problem-solving … she always thinks to walk away if someone annoys you. So we gain a lot family-wise. She's more calmer and orderly. She'll do things when you ask her to do it. She's very good and *Mate-Tricks* did that good. My child was the same. She was pretty angry. Her and her brother and sister used to kill each other. It was a nightmare. Everything was a nightmare – bed times, everything. But she's using the *Mate-Tricks* to get around all that. She's speaking to her sister now and she's learned to step away from her sister. She realises that she's younger and there's different bed times.

	She communicates very well now and she makes her feelings known. Before, she bottled up her feelings, but now she's learned how to express herself. She uses the *Mate-Tricks* skills, the strategies and perspectives – that's a big word for her. If she doesn't want to eat something, she won't say "Yuk!". She'll say we learn about perspectives and if you don't like something, that doesn't mean the other person doesn't like it, it's just people are different. And I was listening to her and thinking, 'OK, this is working'. They love it. 'Y' wouldn't miss it for the world. Mine tend to like school more than before, because before I would have had to really wake her up for school, but now she likes school more and with all the appraisal they're doing in school. Even in school, the teacher has said this year she's got a lot better, her anger isn't as bad. So she's done really well this year in school, whereas last year every week I was up at the school. She just lashed out. 'X' was too quiet, never put her hand up for a question in school or nothing like that. Every parents' meeting, it was 'X' lacks confidence, never speaks up for herself. But now I went to her last parent/teacher meeting and asked the teacher did she see a difference and the teacher said she saw a big difference: 'X' will now be the first one to put her hand up to answer a question. I used to find it very hard to get 'Y' into school. I know my daughter will keep going with it because she still is doing it.
Facilitators	The kids love it and that's the main thing … The kids just love it and they're so enthusiastic about it and they're there before you and so eager to do it. We've got a really great group of kids this year, so it just goes well because they're happy to do it and they're enthusiastic so that works well. The whole thing – it's really good to see it from start to finish. We have a couple of young people in our groups now and their brothers and sisters would have been in it and it's funny because a couple of the brothers and sisters have come to the family sessions and they've said stuff about *Mate-Tricks*. For example, they were doing Our Time and they sit with the parent one-on-one and one of the kids that was in Year 1 was in the room and I said "Do you want to help them?" and he was like "No, Our Time is very important. It's between the two, it's just for him and the mam".

IMPACT ON CHILDREN: **POTENTIAL CHALLENGES TO THE IMPACT OF *MATE-TRICKS* ON CHILDREN (Section 5.2.2)**	
Service providers	A lot of it depends on the young people who are in the group. So you have kids with very strong behavioural difficulties, so that group needs to be managed differently and … the session needs to be broken into sections. So it would be delivered differently, the material would be the same. I have two particular kids in my group … you need to have one facilitator looking after those two kids only and then the other facilitator takes all the rest of the kids. Those kids actually function quite well now in the group and it's only because of the make-up of the group because the rest of the kids don't give them any encouragement at all and they just accept them as they are. So definitely, behaviour is a big thing and it does influence the way things are delivered … the way things are planned. So you would try to make some of the discussion about things more practical, like trying to get the kids to write stuff or draw things. With his behaviour in the group because it's not fair on anyone … it's not fair on the other children in the group … and it's not fair on that child because he is … you know, if you've been suspended a lot from school for behavioural issues, then unfortunately you can see those behavioural issues in Mate Tricks … It's something we're monitoring right now. Um, I've been sitting in on the sessions as well.

Principals	I feel and especially this year that there would be a fight in *Mate-Tricks* and it would spill into school the next day and we're cleaning up the mess that happens in *Mate-Tricks*. I had parents into me one day as well, about something that happened in *Mate-Tricks* and obviously I had to deal with it. It seems to be causing quite a few difficulties, this year especially. Again, the time wasted walking down there and faffing about setting-up. All of that needs to be on the ball. The practicality of allocating 20 minutes to an art lesson when it takes them 20 minutes just to cut the thing out. Our art lessons always went on to the next day. There's definitely some things that need to be looked at it in terms of the timing. In terms of fidelity to the manual, some things were skipped and I know others were doing that too. There just wasn't time in the allocated spot for that.
Facilitators	With the majority of kids, it's brilliant. But there's always going to be a few kids with the concentration and maybe kids who have certain anger issues and that kind of thing who would find the bulk of the programme quite hard to sit down and engage with. So there would only be those few kids that would find it challenging, but the majority of the kids adapt to it and get used to the routine. Again, behaviours and stuff like that. I found the time-out didn't work at all for our young people. They just don't understand the concept. That was a challenge because in the manual it says they go for time-out, but realistically that doesn't happen.

MANUAL/PROGRAMME CONTENT AND APPROACH: **POSITIVES OF MANUAL/PROGRAMME CONTENT AND APPROACHES (Section 5.3.1)**	
Service providers	I think the manual is very workable. I'll say snack time [works best] … It is that space to delineate between school and group.
Children	[My favourite bit is] when we do the games and we have to guess the name of the person.
Parents	They have their goal sheets … with their teachers. They do very well in that. With the goal sheets at home when they're off to bed in the evening, they're like "Did I get it? Did I get it?". So that was a good incentive, do you know what I mean? It's basically a reward at the end of it, having the goal sheets. Like some of the things, like make your bed in the morning and it was done and it's still being done.
Facilitators	The manual, the form that we have it in this year is fantastic and I think it's very well laid out. In general, I find that the structure of the manual works very well, that it progresses along nicely. I suppose you have a guideline of the key points that you need to get across and different ways that you can do them. You know the material you have to cover, that you have to make sure the young people understand … it's great to know exactly what information you have. They all sit together eating, which I think is a really positive thing. I like that. The reward charts have been really good, more so in Year 3 rather than Year 1 and 2. I'd see the role play aspect as well, I see a lot of the young people who would have been maybe shy in doing the role play at the beginning and coming out of themselves and now I've seen them develop and get involved more. I think once they practise and they're familiar in the group now at this stage …

	Yeah, because it is a manual, that's the reason why it is so much easier. Obviously building a relationship with young people and getting to know them and understanding the support that they need, that's another aspect of it. But for the actual programme, being dropped in at that point is fine. Really good. It's a different way of working for youth workers. We tend to go in with what we understand are the needs and develop out the programme from that, whereas this is a programme that is set out based on not a bunch of needs, but something that they need in their life … the different skills that they need right now, that are going to help them further on. So it's giving them the skills before the situations might happen, which is really good. I was a bit dubious about it at the start. I'd never done a manualised programme, but I think it's fantastic now. Fantastic. The new one that was introduced at the start of this year is so clear and so concise – the action plan and the different sections in it. I think it's really good to have that structured time because before, you were saying we'll do it after the group or whatever, but now it's a structured time. I've found it very good because you feel more in tune with the other person. Usually after a session, we talk about how a session has gone anyway. It's good to look and see what we've been doing and how it's worked and it's definitely been really useful, but we would do that anyway so it's kind of normal. So kind of evaluating and looking back at what worked well and what didn't and what action needs to be taken.

MANUAL/PROGRAMME CONTENT AND APPROACH: **ISSUES WITH MANUAL/PROGRAMME CONTENT AND APPROACHES (Section 5.3.2)**	
Service providers	In relation to the whole programme because, again, we were selling a programme that we hadn't even seen the manual for and there was no manual. We hadn't done any training at this stage. We hadn't done any training in either Strengthening Families or Coping Power so you're asking people to trust – you're selling something that you don't know and you're trusting that what you've been told is the truth and you're asking people to trust your word. In my opinion, if people were to come to it next year and were not involved with our list of resources and the rest of it, I think it's a huge body of work the first year, I really do. I think that we were lucky enough and we have two full folders of resources that we have done … we all photocopied them and blew them up into A3 and laminated them so that's our stock. So definitely behaviour is a big thing and it does influence the way things are delivered. It influences the way things are planned, so you would try to make some of the discussion things more practical, like trying to get the kids to write stuff or draw things. People are comfortable with changing bits and pieces that need to be changed, in terms of we'll do that as Art because they'll never be able to sit through that as a discussion, or they love role play so we'll throw in another role play. Let's say we had quite a low level of literacy in our group, so there could be alternative ways of getting across the material in some cases. I think the PICC Model was a perfect example. People were still debating how to do it and how to out it across. I think it's a very simple example of a big challenge like fidelity. I think in some ways there probably was a level of tweaking done that maybe was beyond what should have happened ideally.

Facilitators	I know in the beginning there were lots of things that didn't go so well, I can't really remember now what they were. We had lots of discussions and ironed out things that weren't really working. Like some of the activities didn't work and some of the sessions didn't work so well. Not really, again at the beginning it was a challenge because it was very lengthy and wordy and Americanised, but that's because it was new for us and it was the first draft of it. But I suppose we've all adapted to it and the manual has been adapted for us and I think it works really well. It's just a shame, for example, games, we don't do the games. We do an opening game, maybe if they're good, but we don't do a closing game. So it's just like school. It didn't need many changes, just little tweaks like adding in games and activities rather than reading out a big spiel about feelings and emotions so to make a game out of it, just to make it more user-friendly for 10-year-olds. It depends on the mood of the young people on the day. Sometimes you'd look at a session and say there's quite a lot, so we might stop in the middle and introduce a game as well … just to break it up a little bit more. It just depends on the kids because it's them at the end of the day that you have to adapt for. The last two years we got temporary manuals and we got them before September and then Christmas, and they changed all the time. But this year we have our solid manual.
CDI staff	I'd say they would have been quite frustrated at the beginning … you're saying to people to be faithful to the manual, but use their common sense like with all the Americanisms. I think them getting to know it was hard like when it said 'Say something like this', that was only a suggestion.

FACILITATION OF *MATE-TRICKS*: **POSITIVE ELEMENTS – TRAINING, CO-FACILITATION, APPROACH, ENJOYMENT (Section 5.4.1)**	
Service providers	So the first year a lot of work would have been done around managing their behaviour, appropriate responses to the behaviour of a 9- and 10-year-old, and then appropriate consequences for a 9- and 10-year-old. That's where a lot of the strike system and things from Coping Power came in, when we started to make sense of working with that age. A lot of the theory behind the programme is that ability to influence that certain age … working on behaviour change at any age is a challenge, But a 16-year-old is a far cry from a 9- or 10-year-old, but I think they really enjoyed that different energy.
Principals	The tutors have total control over the whole thing. I don't interfere or get involved too much. It runs very well … The tutors who have been here have been very professional and very committed to the programme.
Children	I like *Mate-Tricks* because it helps me and I like our leaders because they listen to us and our problems. They're very nice, they're very kind and they're very sweet.
Parent	'X' loves them, she really does love them. From day one, she's come home talking about them. Like she'd always get involved in what they were doing.

Facilitators	The training around the manual has been great and I think it's phenomenal that we get it from the developers. I certainly did find the training excellent. The training has been really good, especially the booster in Strengthening Families … They're really useful and they're tools that you'd actually use. I've found it very good because you feel more in tune with the other person. Usually after a session we talk about how a session has gone anyway. You're more prepared as well if you actually sit down and talk about what we will do for the next session, so you work out different strategies and that as well so that again would be an important part. The structure of the programme is good. The fact that there has to be two staff with every group, that's good and that's important and very necessary. Like in a lot of youth work, there's only one staff with a group of children, so having two staff is very beneficial. It's very important for two people to be there and to get through the work … just to keep attendance records as high as possible as well. And it's such a big group as well, especially if you have challenging young people. So one person can take them aside and the session will still run as normal. It couldn't work without having two people unless it was a much smaller group, if it was maybe 7 or 8 kids. I think we've a very good working relationship among us now and we understand each other and know each other's different skills and what we can bring to the table. It's a good team that we have working together there. For me and I suppose it's something that is specific to my job, but I work with young people from 12 to 18, so it's a fantastic means for me to get to know the younger young people in the area and try and hold on to them and progress then through the 'X' system in terms of groups and clubs and stuff like that. You're targeting young people for intervention earlier in their life and that's been particularly effective for me because a lot of those young people are involved in our groups and stuff. I just enjoy it very much. I'm really enjoying it. I'm learning loads of stuff myself.
CDI staff	The support from America has been fantastic. They're very enthusiastic and easy to contact if you have a question. They are very supportive and very generous in terms of their time and their willingness to help us get it right. I think them coming over for particular sessions helps because it just reinvigorates people.

FACILITATION OF *MATE-TRICKS*: NEGATIVE ELEMENTS (Section 5.4.2)	
Service providers	I suppose I would have been concerned the first year with that because a lot of staff would have been used to working with 15- and 16-year-olds.
Principals	I know when *Mate-Tricks* is on, I hear children running down the corridor and doors slamming. They're not as well behaved in *Mate-Tricks* as they are in school … I wouldn't say it's the programme, I'd say it's just an issue of behaviour management. Maybe it's the structure or maybe they feel that they don't have to behave with the facilitators. I felt that the facilitators didn't have any behaviour management skills. The only issue would be a perception among the teachers that the children are not as well behaved during the *Mate-Tricks* class as they are during school. They tend to see it as a far more relaxed environment, where they sometimes feel they can get away with a bit more than they would during class.

Facilitators	Definitely teething problems at the start, but nothing to do with the facilitators, just getting familiar with the manual. And then I suppose because the co-facilitators don't work to manualised programmes, they do whatever there is a demand for at the time. Other people who haven't worked with a manual before probably find it difficult to get used to. Very different actually, very different [age group]. It's a lot harder to reason with a 9-year-old who's lying on the floor than it is with a 13-, 14-, 15-year-old. It's a totally different approach you have to take in the facilitation. But I think I've got a lot better. When I started, I got a shock because it's so different, a different set of skills.
CDI staff	I think delivering from a manual was scary for people and I think there was a real concern that 'I will get lost in this' and 'I have to leave my personality outside in order to deliver from a manual'.

PARENTAL INVOLVEMENT IN *MATE-TRICKS* **(Section 5.5)**	
Service provider	I think we've been very thorough in terms of the normal approach … parents get a calendar for the term so all those dates are highlighted, the kids' dates, the parents' sessions, the family sessions. At the start, when the parents are signing up to it, they're told there's a parent component to it. They get the calendar, they get a letter about three or four days before the session is on, they get a phone call to say the session is on a Monday, they get a phone call probably on the Friday to check they got the letter, then they would get a text on the Monday morning. The parents who engage tend to be very interested. I think the feedback from the schools from a couple of home/school teachers I would talk to would be they would be the same parents who would engage with the schools. Maybe across the board we might get 30% of parents – that's just a guess based on the report I was doing, I was looking at parent sessions between January and April, so for some of them it's higher and for some of them it's lower. There does tend to be a tail-off towards the end of the year. You'll have some parents who'll come down with just a letter and other parents who just won't turn up or they'll tell you they'll turn up and won't.
Principals	Parental support has been mixed – fairly good, but not as good as you would like it to be. But if it was as good as you would like it to be, there wouldn't be a need for a *Mate-Tricks* programme anyway.
Parents	Just well informed. At the end of it, there's no questions because everything has been well explained. Everything you get to bring home – what they've done and how they learn. It is good. I think it made me think about the good things my son was doing. It made you appreciate the things they do, but you kind of overlook them and think about the bad things. So it made me take note, there's so many things that he does well. Not just to pinpoint the things that he doesn't do. I think it's flexible enough. If you can't make one session, there's one in the morning and in the evening.
Facilitators	I felt with the family sessions, we had instances of young people who were on the programme showing up on their own and sitting outside the room and parents begging can they come in … To me that was a real challenge because you had to turn round to the children and say sorry. We have one child and she's come to all of the family sessions and not once have her parents come and the child saying 'Please, please, let me come in' and that is just heart-breaking. That was definitely a challenge. Parents' sessions, like just getting them involved …I know they've got other things going on in their lives, but just keep encouraging them to come. Most aspects of it are going fine. Always going to be a bit of an attendance issue with parent and family sessions.

CDI staff	The other dynamic is that our attendance for parents' sessions for *Mate-Tricks* is poor. So that was a big change.

IMPACT OF CDI'S INVOLVEMENT (Section 5.6)	
Service providers	The quarterly meetings are necessary and I suppose … allow you to do the maths of attendance and to be able to see trends. So they're useful. They tend to run quite smoothly. Normally I deal with X in CDI so I don't really have any issues in terms of communication. I think they've [CDI] coped well. There was a lot of layers of review and reflection and reflective tools, planning review sessions with myself or with X in terms of support supervision.
Principals	Absolutely excellent, they've [CDI] been marvellous. They've been fantastic in managing it. They're very good at letting the children know when it's not on. I've had no problems like that, the kids and the parents seem to know when it's on.
Facilitators	No, I think it was managed very well and works effectively. The lines of communication are very clear. It was done very professionally. It's nice to have the support and when you're talking about particular sessions to know that other facilitators are having similar stresses or something has gone as well as you've felt it did. Brilliant. We wouldn't all be together and it's good to sit down even if there is an issue in a group and somebody says they have the same issue. So COPs [Communities of Practice Meetings] are good for that sort of thing, to check in with everyone. I think the meetings that we have are good because, as I said, I've only come in so to hear other people's opinions on how certain things are going.

IMPROVEMENTS WITH TIME (Section 5.7)	
Service providers	I met with all the *Mate-Tricks* staff and, bar one person who worked very hard on it but just wasn't keen on it as a programme, everyone else [had] their reflections on where they saw those children go from September to May and seeing the proof of the pudding had very different attitudes. In a lot of ways, the things go hand in hand because they were much more positive about what the programme could achieve, the fact that it was manualised people were saying it's great to have the programme done for you, that it's laid out, whereas probably 12 or 18 months before people felt they were losing a lot of autonomy. I think the COPs are working an awful lot better. I think staff are much more engaged with them, they're much more practical … They were definitely too theoretical at the start, whereas at this stage they're really about the skin and bones of the programme. School J, we have a very good relationship with at this stage. Part of that is to do with the fact that the facilitator was well established within the community beforehand and she was known in the school. They were quite sceptical at the start, but they're very positive altogether. I do think schools were incredibly sceptical in the first year.

Facilitators	And then, I suppose, because the co-facilitators don't work to manualised programmes, they do whatever there is a demand for at the time. It's been so nice to see how much people have embraced it …I know it can be a large chunk out of their work and at the start it was very daunting. But then as time's gone by and we all know we have to do it, it's been a lot nicer. I was a bit dubious about it at the start. I'd never done a manualised programme, but I think it's fantastic now. I think for the initial part of it I thought I already know what's going on in the *Mate-Tricks* manual. There were aspects at the beginning that I felt weren't fully relevant. I think more recently there's been an agenda and so on, so you know what's coming up. Fantastic. The new one [manual] that was introduced at the start of this year is so clear and so concise – the action plan and the different sections in it. I think it's all going well. I think this third stage is definitely the best because we've got to the stage where we've tweaked the things that needed to be changed. It's definitely good to have the teachers on board as well, and that they know what's going on in *Mate-Tricks* and what to look out for with the children.
CDI staff	There was a time there when no matter what happened, the manual was blamed for it. But now I think there's more of a proactive attitude. They see it as more of a tool. There's more ownership over it and understanding of the process of it.

Appendix 3: Explanation of statistical terminology in report

A3.1 Outcome measures

A measure was constructed in relation to each of the outcomes listed in the study. Each single measure contains a number of items (questions) that are averaged to create a score on the particular outcome. There were 2 primary outcomes (each measured in 3 ways) and 15 secondary outcomes variables investigated.

A3.2 Mean scores (with standard deviations)

For each of the outcome measures used, the tables in Chapters 3 and 4 compare the mean (or average) post-test scores of children, parents and teachers in the intervention group (i.e. those children who received the *Mate-Tricks* programme) with those in the control group (i.e. those who did not).[7] By way of illustration, in Table 4.2 the average score for children who received the *Mate-Tricks* programme at the end of the randomised controlled trial (RCT) in relation to anti-social behaviour was 1.66 compared to an average score of 1.47 for children who did not receive the programme. Thus, on average, the intervention group had slightly higher anti-social behaviour scores than the control group.

The figures in brackets beneath the mean scores represent the standard deviations and they provide a sense of how spread out the scores of the children, parents and teachers are within each group. As a rough guide, about two-thirds of scores tend to lie within one standard deviation of the mean. Thus, again in Table 4.2, to take the example of the mean anti-social behaviour score of children in the control group (1.47), its standard deviation can be seen to be 0.76. This means that we can deduce from this that about two-thirds of children have a score of 1.47 plus or minus 0.76, i.e. their scores fall between 2.23 and 0.71.

In relation to the standard deviations shown in Tables 4.2 and 4.3, they are very similar for the intervention and control groups and this suggests that not only are the mean post-test scores similar for both groups in the majority of cases, but also that the spread of scores in both groups is similar.

A3.3 Effect sizes (*d*)

The effect size is a standardised measure of the size of the difference in mean scores between the control and intervention groups – in this case, the size of the effect of the *Mate-Tricks* programme. Effect sizes tend to run from 0 (indicating that there is no effect at all) to +1 (indicating that there is a very large positive effect) or -1 (indicating that there is a very large negative effect). In education, effects in the range of 0.20 or 0.30 tend to be considered 'meaningful' and those of around 0.50 or higher tend to be viewed as 'large'. Those below 0.10 are considered 'small'.

In relation to the data presented in Tables 4.2 and 4.3, it can be seen that most of the effects are fairly small (below 0.20). However, there are a few effects above this level.

Effect sizes are actually measured in units of standard deviations. Thus, an effect size of +0.50 would actually indicate that the mean score of the intervention group is half of a standard deviation higher than that of the control group. Using effect sizes in this way allows us to compare the relative effects of the programme across different outcome measures. This is particularly useful when the outcome measures themselves may be calculated on different scales and thus where it is not possible to directly compare differences in raw scores.

A3.4 95% confidence interval

For each estimated effect size, a 95% confidence interval is also provided. Since this RCT is based on a sample of children (rather than on the total population), then the effect sizes reported can only ever be viewed as estimates and, as such, will carry a level of sampling error. The confidence intervals give a sense of the sampling error associated with each effect size. More specifically, the confidence intervals tell us that there is a 95% chance that the true effect size for the *Mate-Tricks* programme lies somewhere between the two figures quoted. Thus, for anti-social behaviour, the effect size was estimated from this RCT as being +0.24 (Table 4.2) and the confidence interval indicates that we can be 95% certain that the true effect of the programme lies somewhere between +0.04 and +0.43.

[7] These mean scores have been adjusted to control for any differences between the two groups in relation to their pre-test scores.

A3.5 Significance of difference

Because we are dealing with a sample, then there is a chance that the *Mate-Tricks* programme may have had no effect at all and that the effect sizes found could have just occurred by chance in terms of the random nature of the sample selected and the way the children were split into intervention and control groups. The figures in the last column of Tables 4.2 and 4.3, headed 'Significance', tell us the actual probability of this occurring for each of the estimated effect sizes listed. In other words, these figures tell us the chance that the *Mate-Tricks* programme may have had no effect at all in reality and that the effect sizes found here have just occurred randomly as a product of sampling error.

To illustrate this point, let us take an example. In Table 4.2, the effect size estimated for anti-social behaviour is +0.24 and the significance of this effect is 0.036 (reported as p=0.036). Perhaps the best way to interpret this is to multiply this 0.036 figure by 100, which then converts the probability into a percentage chance. In this case, the findings tell us that there is a 3.6% (round it up to 4%) chance that the *Mate-Tricks* programme had no effect at all for this measure and that the effect quoted (of +0.24) could have occurred randomly. Another example, again in Table 4.2, shows that the effect size of the programme on pro-social behaviour is -0.02 and its significance is p=0.866. Here, the findings suggest that there is an increased chance (an 87% chance) that this effect could have occurred randomly and that, in reality, the programme has not had any effect at all on this outcome.

The Childhood Development Initiative
St. Mark's Youth and Family Centre
Cookstown Lane
Fettercairn
Tallaght, Dublin 24

Tel: (01) 494 0030
Fax: (01) 462 7329
E-mail: info@twcdi.ie
Web: www.twcdi.ie

CDI
CHILDHOOD DEVELOPMENT INITIATIVE

An Roinn Leanaí agus Gnóthaí Óige
Department of Children and Youth Affairs

The ATLANTIC Philanthropies